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NEWS & ANALYSIS

Integrating Sustainable Development Into U.S. Law and Business

by E. Donald Elliott and Mohamed Tarifi

Few if any U.S. environmental laws explicitly consider sustainable development as their goal or objective. At most, a few U.S. laws may be said to be partial or imperfect reflections of sustainable development theory and to incorporate portions of the concept of sustainable development. Nonetheless, recent quantitative indicators on a cross-national basis suggest that U.S. law and policy has been reasonably effective at promoting sustainable development. The United States was ranked 11th among countries on a quantitative index of sustainable development in 2001 and scores well on most indicators except energy usage and climate change.

In this Article, the anomaly of a system of law that achieves a goal that is not a conscious design principle for the law is explored at a theoretical level with reference to principles of evolutionary biology. It is argued that legal systems, at least in common-law countries, reflect two different kinds of intelligence: conscious design and unconscious incorporation of cultural norms. A variety of nonlegal drivers are considered that may cause businesses to adopt sustainable development principles, even if they are legally required. It is concluded, however, that the U.S. system of environmental laws could be improved by making sustainable development an explicit guiding principle as well as an incidental byproduct of the legal system. At the end of the Article, suggestions are presented for how to incorporate sustainable development principles into the U.S. legal system.

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Background on Sustainable Development

Although the concept had many precursors,¹ the phrase “sustainable development” was launched in 1987, when the World Commission on Environment and Development (known as the Brundtland Commission) challenged the world community to fulfill the “needs of the present without compromising the ability of future generations to meet their own needs.”²

Admittedly, although the concept of sustainable development was vague and hardly quantifiable, it provided a strong platform to build on. At the Rio Earth Summit in 1992, the definition of sustainable development evolved to give greater emphasis to minimizing the environmental impact of operations and to maximize their social and economic contributions.³ This concept of sustainable development is somewhat more specific than its predecessors. It suggested to some, however, that environmental stewardship is the driver of social commitments and economic growth and implied that sustainable development is primarily an environmental model, views which we consider erroneous.

At the 1992 Rio Earth Summit, over 150 nations committed to reduce or prevent greenhouse gas (GHG) emissions, protect plant and animal species through measures such as preserving and restoring natural habitats, and adopted Agenda 21 pledging to implement this blueprint for sustainable development through national policies and processes.⁴ Progress in actually implementing the goals of Agenda 21 has been halting at best. Nine years later, Europe, Japan, and the United States had experienced increases in carbon dioxide emissions by 6, 6, and 13% from 1990 levels, respectively.⁵ Brazil, China, and Indonesia have seen their emissions soar 20 to 40% from 1990 levels.⁶ Also, world performance on biodiversity is mediocre at best. Over 100,000

1. See, e.g., GIFFORD PINCHOT, *THE FIGHT FOR CONSERVATION* 4 (1910) (“When the natural resources of any nation become exhausted, disaster and decay in every department of national life follow as a matter of course. Therefore the conservation of natural resources is the basis, the only permanent basis, of national success.”).
2. WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, *OUR COMMON FUTURE* (Oxford 1987) (also referred to as the Brundtland Commission Report) [hereinafter *OUR COMMON FUTURE*].
3. See United Nations Environment Program (UNEP), *Rio Declaration on Environment and Development* (1992), at <http://www.unep.org/Documents/Default.asp?DocumentID=78&ArticleID=1163> (last visited Dec. 16, 2002) (“Principle 4—In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.”).
4. UNEP, *Agenda 21*, at <http://www.unep.org/Documents/Default.asp?DocumentID=52> (last visited Dec. 16, 2002).
5. JENNIFER McIVER & JACOB SCHERR, *EARTH SUMMIT WATCH, IMPLEMENTATION SUMMARY* (1997).
6. *Id.*

plant and animal species have been lost since Rio. As for Agenda 21, although over 100 countries including the United States had established councils, commissions, or other bodies to develop national Agenda 21s, there is little concrete evidence to suggest that measurable changes in national policies have occurred.

The three pillars of sustainable development as envisioned by the Brundtland Commission—economic growth, social equity, and environmental stewardship—were advocated by some in industry throughout the 1980s as corporations began to embrace voluntary standards and initiatives at the domestic and international levels. It is important to note, however, that addressing these components separately without “hardwiring” sustainability into the culture and companies’ strategies is like having an army fighting a war without a coordinated strategic plan.

As some in industry began to embrace the concept of sustainable development, a new definition evolved: “The degree of how much an enterprise is sustainable is measured by estimating the net value of economic, environmental and social impact on society.”⁷ Although this definition does not put any weight on the three elements of sustainable development, it does state clearly that each has to be measured and implies that there exist some inherent trade off amongst the elements.

The fact remains that none of the above-mentioned definitions suggests a methodology to quantify sustainable development. Until we develop a simple and globally endorsed model for measuring sustainability and undergo a collaborative and comprehensive educational program for the public, it will be impossible to operationalize the concept in a consistent way.

Law may also have a role to play in the process of further defining and operationalizing the concept of sustainable development.

U.S. Environmental Laws Do Not Explicitly Reflect Principles of Sustainable Development

“Most of today’s [U.S.] environmental law violates the basic principles of ecology,” wrote one of the present co-authors a few years ago.⁸ Rather than an integrated, holistic approach to the environment, U.S. environmental law regulates primarily through a series of separate, uncoordinated statutes. These separate environmental statutes leave significant gaps, and some significant activities are outside the system entirely. For example, energy consumption, urban planning, and agricultural practices in the United States are largely unaffected or affected only obliquely by our environmental laws.⁹

Even with regard to areas of activity such as chemical and air pollution that are heavily regulated, U.S. statutes at the national level do not generally focus on sustainable development as a guiding principle for the system. Few U.S. environmental statutes even purport to state an overall goal or guiding purpose. Most are mere collections of different regulatory “tools” or “weapons” that are given to an adminis-

trative agency (usually the U.S. Environmental Protection Agency (EPA)) to “attack” the problem of a particular kind of pollution.

The Clean Air Act (CAA) is an exception in that it does include an initial statement of “[c]ongressional findings and declaration of purpose.”¹⁰ Portions of this statutory statement of purpose for the CAA might be read charitably and out of context as reflecting a nascent but emerging sense of sustainable development: “The purposes of this subchapter are—(1) to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population.”¹¹ However, this lofty statement of goals is generally belied by the working portions of the statute that follow. They consist mainly of a disconnected series of separate regulatory “programs” with separately declared regulatory goals, such as the use of best available control technology to reduce releases of 189 specific toxic compounds that are specifically listed in the statute.¹²

Comprehensive, holistic analysis to integrate economic development policy and environmental policy is, unfortunately, *not* the rule in U.S. law. U.S. environmentalists recently cheered when our U.S. Supreme Court held unanimously that EPA was forbidden by statute from considering economic effects when setting national ambient air quality standards.¹³ This type of disconnected analysis in which controlling pollution is conceived as insulated from analysis of economic effects is the antithesis of the integrated analysis envisioned by the worldwide movement to integrate economic development and environmental protection through the concept of sustainability.

The predominant method for attacking environmental problems in the United States is not comprehensive planning to achieve sustainable development on a long-term basis, but rather “bureaucratic standard setting” by which administrative agencies set limits on the quantum of pollution that are judged tolerable in various media or based on technology. This centralized “command-and-control” model of environmental regulation has been much criticized,¹⁴ and in some areas we are gradually transitioning to more decentralized systems of regulation relying on market-based incentives, such as the Acid Rain Trading system created by the 1990 Amendments to the CAA,¹⁵ as well as “pollution prevention” and “voluntary action.” However, these so-called second generation policies are still far from the norm in U.S. environmental law, and even where they do exist, they generally represent more efficient implementation mechanisms to achieve existing statutory goals and objectives rather than a fundamental re-conceptualization of the goals of the U.S. environmental effort.

Perhaps the absence of explicit reference to sustainable development theory in U.S. environmental laws is understandable—if not defensible—if one considers history. The basic design of the U.S. system of environmental laws at the federal level was established in the 1970s well before the

7. JOHN ELKINGTON, *THE TRIPLE BOTTOM LINE* (1997).

8. E. Donald Elliott, *Toward Ecological Law and Policy*, in *THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY* 170 (M. Chertow & Daniel Esty eds., Yale Univ. Press 1997).

9. *Id.*

10. 42 U.S.C. §7401, ELR STAT. CAA §101.

11. *Id.* §7401(b)(1), ELR STAT. CAA §101(b)(1).

12. *Id.* §7412, ELR STAT. CAA §112.

13. *Whitman v. American Trucking Ass’n*, 531 U.S. 457, 31 ELR 20512 (2001).

14. *See, e.g.*, Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 *STAN. L. REV.* 1333 (1985).

15. 42 U.S.C. §§7651-7651o, ELR STAT. CAA §§401-416.

Brundtland Commission popularized the concept of sustainable development in the mid-1980s.¹⁶ U.S. environmental law has been criticized for being built on the economic theory of “market failure” rather than on a theory of preserving the environment for future generations derived from evolutionary biology.¹⁷

There are admittedly a few examples of U.S. laws that indirectly or partially or imperfectly incorporate concepts that might be said to reflect the philosophy of sustainable development. For example, one of the earliest federal environmental statutes, the National Environmental Policy Act (NEPA) of 1969, requires federal agencies to analyze “any irreversible and irretrievable commitments of resources which would be involved” in “proposals for . . . major Federal actions significantly affecting the quality of the human environment.”¹⁸ This requirement for “environmental impact statements” is supposed to “utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man’s environment,”¹⁹ and has been copied by at least 60 countries and many international agreements.²⁰ Perhaps it would be possible to imagine a system of U.S. law built on this conceptual foundation as leading to sustainable development. But that is the road not taken. Our Supreme Court has construed NEPA as imposing only procedural rather than substantive requirements.²¹ Moreover, ironically perhaps, most environmental decisionmaking by EPA is specifically exempted by the U.S. Congress or court decisions from the requirement for comprehensive analysis of environmental effects that applies to other agencies under NEPA.²²

There are other bits and pieces of U.S. environmental laws that may be said to reflect portions of the philosophy of sustainable development. For example, in approving significant new uses of a chemical, the Toxic Substances Control Act specifically instructs EPA to consider “persistence” in the environment as one factor to be weighed.²³ The recent movement toward redeveloping contaminated property for re-use (the so-called brownfields movement) can also be seen as reflecting, at least indirectly, the underlying concept that development should be sustainable rather than permanently “consuming” resources such as land. Similarly, the developing “industrial ecology” movement in environmental theory and some industrial practice in the United States is very consistent with the premises of sustainable development.

But these are at most hopeful signs that sustainable development may eventually emerge as a conscious goal of U.S. environmental policy. No fair minded observer could conclude that U.S. environmental law and policy as they currently exist makes sustainable development an organizing focus or central design goal.

Measuring the U.S. Record on Sustainable Development

Although U.S. law and policy have not made sustainability a self-conscious goal or objective, developing empirical evidence suggests that the United States has been comparatively successful in promoting development on a sustainable basis—with the conspicuous exceptions of energy usage and effects on global climate, where we are clearly far behind Europe.

The leading effort to develop empirical measures of sustainable development has been conducted at Yale University under the leadership of Prof. Dan Esty. Esty and his colleagues have constructed an environmental sustainability index (ESI) that measures empirical indicators of environmental performance and quality of life. The ESI is the result of collaboration among the World Economic Forum’s Global Leaders for Tomorrow Environment Task Force, the Yale Center for Environmental Law and Policy, and the Columbia University Center for International Earth Science Information Network. The original ESI for 2001 examined available data and estimates on 22 key factors that contribute to environmental performance and results, such as urban air quality, overall public health, and environmental regulation. It measures these factors against 67 quality-of-life variables, such as levels of sulfur dioxide in urban air, the infant mortality rate, and the percentage of land protected from development.²⁴ For 2002, the ESI was expanded to include 142 countries, and ESI scores were based upon a set of 20 core “indicators,” each of which combines 2 to 8 variables for a total of 68 underlying variables.²⁵

When the results of U.S. law and policy²⁶ are evaluated by these quantitative measures of sustainable development, rather than based on their style and rhetoric, they stack up surprisingly well. According to the authors of the ESI:

Much like a cumulative grade point average for the environment, this number represents a country’s environmental success—its ability to sustain human life through food resources, a safe environment, to cope with environmental challenges and cooperate with other countries in the management and improvement of common environmental problems. The top country, Finland, registered 80.5 and the bottom country, Haiti, was at 24.7. The

16. OUR COMMON FUTURE, *supra* note 2.

17. E. Donald Elliott, *The Tragi-Comedy of the Commons: Evolutionary Biology, Economics, and Environmental Law*, 20 VA. ENVTL. L.J. 17 (2001).

18. 42 U.S.C. §4332(1)(C)(iv), ELR STAT. NEPA §102(1)(C)(iv).

19. *Id.* §4332(1)(A), ELR STAT. NEPA §102(1)(A).

20. DAVID HUNTER ET AL., INTERNATIONAL LAW AND POLICY 366 (1998) (“Many international instruments, international institutions, and over sixty countries now require some form of EIA [Environmental Impact Assessment]. States are increasingly recognized to be under a general obligation to assess the environmental impacts of their activities . . .”).

21. *Strycker’s Bay Neighborhood Council v. Karlen*, 444 U.S. 223, 10 ELR 20079 (1980).

22. *See, e.g.*, 15 U.S.C. §793(c)(1); 33 U.S.C. §1371(c)(1), ELR STAT. FWPCA §511(c)(1).

23. 15 U.S.C. §2604(a)(2)(C), ELR STAT. TSCA §5(a)(2)(C).

24. The ESI’s results and methodology can be downloaded from the Yale Center for Environmental Law and Policy at <http://www.yale.edu/envirocenter/> (last visited Jan. 23, 2002).

25. *See* Yale Center for Environmental Law and Policy, *About the Environmental Sustainability Index (ESI)*, at <http://www.yale.edu/ycepl/esi.htm> (last visited Dec. 16, 2002).

26. It is of course theoretically possible that the U.S. economy would have achieved these results without regard to the incentives created by law. Because of limits on space imposed by the editors, it is not possible to address in detail the thesis that U.S. law is not only silent but irrelevant to promoting sustainable development. Suffice it to say that it seems implausible that a system of legal incentives as pervasive and expensive as environmental law in the United States would be having no effect on shaping conduct.

United States stood at 66.1 [or 11th among the 122 countries evaluated].²⁷

There were some surprises among the rankings. For example, Belgium ranked well below the United States at 44.1. France, Germany, the Netherlands, and the United Kingdom ranked just behind the United States in these supposedly objective measures.²⁸

On the enhanced index for 2002, the United States did not do quite as well, dropping to 45th as more factors were included. But the United States still ranked in the top third, and above some countries such as Germany and Japan that often think of themselves as superior to the United States in environmental performance.²⁹

One can of course argue with the specifics of the rankings and the particulars of the measures chosen. For example, how does one trade off leaded gasoline (which is still in use in some countries) against greater per-capita energy consumption in the United States? As one might expect, there is a raging debate in the academic literature about the validity of these statistics.³⁰ One can question not only the particular measures chosen, but also the way that they are implicitly weighted and whether they really capture the essence of sustainability as a concept. There is no question, for example, that the United States currently lags far behind the European Union and many other countries in energy efficiency and controlling the discharge of GHGs that most scientists believe contribute to global climate change. If one gives greater weight to the particular issue of global climate as opposed to infant mortality or to controlling urban smog or waterborne diseases,³¹ for example, the rankings would change.

But from a theoretical perspective, the interesting question is not exactly where the United States ranks internationally in measures of sustainability, but how it can be doing as well as it is (however well that may turn out to be), given the fact that sustainable development is not a conscious goal of U.S. environmental law, as shown above.

Reflexivity Versus Conscious Design in U.S. Statutory Law

It appears that the U.S. legal system, like Molière's *Bourgeois Gentleman*,³² is speaking prose without knowing it: despite important and conspicuous exceptions, such as energy usage and climate change, the United States appears to be doing a reasonably good job of promoting sustainability

even though that concept is not a conscious design goal for our legal system. How can this be?

One possible explanation is that sustainable development is a composite concept that combines a collection of subsidiary goals such as reducing air and water pollution and promoting human health and well-being. While sustainable development as such may not be a declared goal of U.S. law, the various sub-goals that add up to form a sustainable development policy are explicit goals of U.S. law and policy. We can call this the "mediating concept explanation." There is some force to this explanation.

Another complementary explanation is that legal systems, particularly in common-law countries, often promote policy objectives that are not conscious design goals for the system. Call this the "hidden hand explanation." A classic example of the idea that there is a collective intelligence in the legal system as a whole that is separate and distinct from the individual intelligences of individual legal actors is Richard Posner's famous thesis that the common law promotes economic efficiency.³³ For the moment, it is immaterial whether or not Posner's thesis is correct. What is important to observe is the claim that a "hidden hand" separate from conscious design choices by individual human beings may be guiding legal development. Other examples of "hidden hand" explanations of law are the traditional claims of "legal realists" that judges and other lawmakers pursue economic or class interests or ideological factors of which they may be only dimly aware at a conscious level.

Legal systems, like many other cultural systems, exhibit two different kinds of intelligence simultaneously: they are the product of both conscious design choices by their architects, but also of a systemic or evolutionary logic that does not depend on conscious awareness by individual participants.³⁴ In Europe this concept of law as responding to external cultural factors is sometimes referred to as "reflexive law."

How then could sustainability work its way into the law in various countries including the United States without being explicitly stated as a design goal for the law? Perhaps sustainable development does indeed express the "common aspirations of humankind" to pass on to their children and grandchildren a world as good as the world we inherited.³⁵ If sustainable development theory does indeed summarize a set of values or a world view that is immanent in many cultures—and perhaps even in human nature itself—then perhaps it is not too surprising that we would find that this norm gradually works its way into the law, at least in those countries in which the legal system is relatively responsive to public attitudes. Moreover, many organizations such as businesses may adopt sustainable development as a goal

27. Press Release, Yale University, Environmental Sustainability Index (Jan. 26, 2001), available at <http://www.yale.edu/envirocenter/>.

28. The complete 2001 and 2002 ESI rankings are available online from the Yale Center for Environmental Law and Policy at <http://www.yale.edu/envirocenter/>.

29. Columbia University Center for International Earth Science Information Network, *Environmental Sustainability Index 2002 Rankings by Country*, at <http://www.ciesin.columbia.edu/indicators/ESI/rank.html> (last visited Dec. 16, 2002).

30. For a summary of arguments pro and con, see ENVIRONMENTAL PERFORMANCE MEASUREMENT: THE GLOBAL REPORT 2001-2002 (Daniel Esty & Peter Cornelius eds., Oxford Univ. Press 2001).

31. For one man's "ecorealist" view of how to evaluate the relative seriousness of various environmental issues, see GREGG EASTERBROOK, A MOMENT ON THE EARTH: THE COMING AGE OF ENVIRONMENTAL OPTIMISM (Viking Penguin 1995).

32. MOLIÈRE, LE BOURGEOIS GENTILHOMME (1671) (a comedy satirizing the pretensions of a social climber whose affectations are absurd to everyone but himself).

33. Paul Rubin, *Why Is the Common Law Efficient?*, 6 J. LEGAL STUD. 51 (1977). This thesis is explored and criticized in E. Donald Elliott, *The Evolutionary Tradition in Jurisprudence*, 85 COLUM. L. REV. 38 (1985).

34. Jethro Brown, *Law and Evolution*, 29 YALE L.J. 394 (1920). For further discussion of the concept that law evolves in response to its external environment, as well as representing conscious design choices by its architects, see E. Donald Elliott, *Holmes and Evolution: Legal Process as Artificial Intelligence*, 13 J. LEGAL STUD. 113 (1984); E. Donald Elliott, *Law and Biology: The New Synthesis?*, 41 ST. LOUIS U. L.J. 595 (1997).

35. For an argument to this effect, see E. Donald Elliott, *supra* note 17. See also EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY, AND INTERGENERATIONAL EQUITY (1989).

even where there is no explicit mandate in the law directing them to do so.

Sustainable Development in Business

We believe that sustainable development is a powerful business model for many companies. A strong and synergistic link exists among its three components—economic growth, social equity, and environmental stewardship. Further, a business model that recognizes the synergistic impact of environmental stewardship and social commitment and obligation on economic growth is not new. It may not have been practiced early on because of greed, shortsightedness, abundance of resources, lack of holistic and coherent policies, etc. After the concept was articulated in 1987, it didn't take some industries long to realize that good environmental management is generally good business and that eco-efficiency can save billions of dollars. For example, more efficient processes yield very little waste byproducts and profits go hand in hand with environmental stewardship. In addition, in some industries, consumer expectations may drive companies to adopt strong policies of environmental stewardship.³⁶

Wall Street has recognized the value of sustainable development as a better measurement of a company's performance than traditional financial metrics. The Dow Jones Sustainability Index Mutual Funds was established in 2000 and is comprised of 230 companies that are judged as global leaders in sustainability. Through a "back-test" that examined how the sustainability index would have fared over the last five years, fund managers concluded that it would have outperformed its General Index by 5%.³⁷

In 1990, Ed Woolard, then-chairman of DuPont, addressed an industry audience at the Economic Club in Detroit. He said: "Sustainable development needs to be fleshed out with workable theories, it has yet to become the basic outlook of people in business. It's not taught in the business schools, it's not part of corporate plans, but I believe that it is the way of the future."³⁸

On November 29, 1999, DuPont Chairman & CEO Chad Holliday addressed the same audience and said: "We have worked hard to make sustainable growth part of our corporate outlook and integral to our corporate plans."³⁹ He went on to say: "As we work on improving both shareholders value and social value while reducing environmental footprint, we have formed a useful metric to help guide our thinking and decisions. This metrics is shareholder value added per pound of production."⁴⁰

Between 1990 and today, many leadership and global companies like DuPont have moved from talking about sustainable development to integrating it in all of their business strategies and culture. Industry has collaborated with the Global Reporting Initiative to develop guidelines for sustainability reports. Over 50 leadership companies from all over the world representing most sectors of industry published sustainability reports since 1999. They had much to report on accomplishments throughout the 1990s.⁴¹

In 1991, the World Business Council on Sustainable Development (WBCSD) was established to represent business at the Rio Earth Summit. The WBCSD is a coalition of international companies united by a shared commitment to sustainable development via the three pillars of economic growth, environmental protection, and social equity. Over the past decade, industry, through the WBCSD, has launched many projects to promote and institutionalize the concept of sustainable development, including eco-efficiency, corporate social responsibility, sustainability through the market, climate and energy, the availability of water, innovation and technology, sustainability reporting, and biodiversity.⁴²

To some degree, industry can be a leader in sustainable development. After all, 53 of the top 100 economies in the world are corporations, so it is hard to imagine sustainable development becoming a guiding principle worldwide *without* broad support in industry as well as government and academia. Industry cannot, however, implement policies favoring sustainable development on its own. Efforts toward sustainable development can be thwarted by government policies, such as subsidies that obstruct free markets or misguided "development" projects that produce few real benefits but harm the environment. Moreover, schools, non-governmental organizations, and the media must help to educate the public to make the better choices to achieve sustainable consumption. And government and academia also have important roles to play in innovating new technologies that will help to make sustainable development a reality.

In the next section, we consider whether law may also play a role in promoting sustainable development.

Why U.S. Law Should Be More Self-Conscious in Proclaiming Sustainable Development as an Explicit Goal

If law does—at least to some extent—incorporate values immanent in the culture and business practices, when should law incorporate a value explicitly and self-consciously as opposed to leaving it merely implicit but unarticulated?

There is a roughly analogous issue in evolutionary theory in biology. Human beings use individual learning and culture as well as genetic evolution to adapt to changes in their environment. There is a relatively well worked out theory in evolutionary biology called the "Baldwin effect" that describes when change will be encoded genetically rather than through culture or individual learning. In simplified terms,

36. PRICEWATERHOUSE COOPERS LLP, 2002 SUSTAINABILITY SURVEY REPORT 1-2 (2002) ("The vast majority of U.S. companies that are committing to sustainability are doing so to enhance or protect their reputations (90%) The larger and more visible the company, the more likely it is to be developing sustainability programs.).

37. BJORN STIGSON, WORLD BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT, BUSINESS AND SUSTAINABLE DEVELOPMENT: A PARTNERSHIP FOR CHANGE (2001), available at <http://www.wbcscd.ch/newscenter/speeches/sd/keynote-bs-small-2001.pdf>.

38. Edward Woolard, Address at the Economic Club, Detroit, Mich. (1990), cited by Chad Holliday, Address at the Economic Club, Detroit, Mich. (Nov. 29, 1999).

39. Chad Holliday, Address at the Economic Club, Detroit, Mich. (Nov. 29, 1999).

40. *Id.*

41. To examine the accomplishments of these companies, visit the Global Reporting Initiative, at <http://www.globalreporting.org/GRIGuidelines/index.htm> (last visited Oct. 1, 2002). The individual companies are linked to their sustainable development reports.

42. WORLD BUSINESS COUNCIL ON SUSTAINABLE DEVELOPMENT (WBCSD), TEN YEARS OF ACHIEVEMENT, ANNUAL REVIEW 2000 (Geneva, Sept. 5, 2001) (published to celebrate the WBCSD's tenth anniversary).

changes in the environment are only encoded in the genes by evolution when conditions persisting over long periods of time result in significant selection pressures; more mercurial changes are more likely to be accommodated by individual learning and/or culture. Biological evolution generally requires at least several generations to be expressed, whereas cultural changes can take place more quickly, and individual learning even more quickly still.⁴³

In law, the difference between conscious design goals and immanent, unstated policies is not so much a matter of the speed of change as of precision in implementation. Perhaps this idea was expressed most clearly a century ago by one of America's greatest lawyers, Oliver Wendell Holmes Jr., in his article *Law in Science and Science in Law* in the *Harvard Law Review* in 1899: "[I]nasmuch as the real justification of a rule of law, if there be one, is that it helps to bring about a social end which we desire, it is no less necessary that those who make and develop the law *should have those ends articulately in their minds*."⁴⁴ The primary value of stating the underlying goals of law clearly and explicitly is that accurate implementation of those policies is promoted if those who implement the law have its "ends articulately in their minds."⁴⁵ A more modern, but perhaps less elegant, statement of the same principle is the so-called optimal precision literature in law, which argues that the precision of legal rules should be guided by, among other things, "congruency with policy purposes."⁴⁶

The lack of "congruency with policy purposes" has been a big problem for environmental law in America. Many studies of U.S. environmental law have shown that *in the aggregate* our efforts to clean up the environment have been a good investment, with benefits in harms avoided equal to or far in excess of their costs.⁴⁷ However, within the overall system of environmental law, there are many significant anomalies—individual programs or rules that are highly inefficient, in the sense that they could produce far greater benefits if resources were shifted into other areas.⁴⁸ Perhaps this misallocation of resources within the environmental effort results in part from the lack of a clear, overarching goal by which various efforts can be measured. Stating a clear goal does not mean, of course, that institutional and political factors can be ignored or that the rewording of statutes will automatically change their implementation. The point is only that a clear synthesis and statement of the goals of the system might provide a lodestar by which policies could be judged.

Professor Esty has argued that sustainability is *not* such a lodestar. In a recent article in *Foreign Policy*, Esty argues that sustainable development has no generally accepted meaning and is not a coherent or helpful concept.⁴⁹ We must respectfully disagree. Sustainable development is "essentially a moral idea" that reflects the concept that "we as human beings have an obligation to pass on to future generations a world that is as good as the world that we inherited."⁵⁰ The norm of intergenerational equity that underlies the concept of sustainability is common to many legal systems and ethical traditions around the world.⁵¹ In the Anglo-American legal tradition, it was stated succinctly in the 17th century in John Locke's famous injunction that the appropriation of private property from the global commons was morally justified, "at least where there is enough, and as good left in common for others."⁵² At base, the goal of sustainable development implements the moral principle behind Locke's theory that "enough" and "as good" must be left for others.

Admittedly, like many other moral goals, sustainability is a high level generality that needs further elaboration in concrete circumstances. We believe that U.S. environmental law would benefit from a restatement and integration of sustainable development as an explicit goal.⁵³

How to Integrate Sustainable Development Into U.S. Law

There are two basic strategies that might be followed for integrating concepts of sustainable development more explicitly and systematically into U.S. law. For simplicity, they can be called "the hard way" and "the easy way." The "hard way" would be to painstakingly review and revise each of our many environmental statutes and the correlative bodies of implementing regulations and case law from the standpoint of sustainable development. In an ideal world where practicality was not an issue, this might be the better way to proceed. The "hard way" strategy suffers from one major drawback, however: it is unlikely to happen. There is simply no political force or constituency anywhere on the horizon with anything approaching the motive force necessary to achieve a comprehensive reexamination and reworking of

43. For an accessible explanation of the "Baldwin effect," see Matt Ridley, *Genome: The Autobiography of a Species*, in 23 CHAPTERS 220-23 (Perennial 2000).

44. Oliver Wendell Holmes Jr., *Law in Science and Science in Law*, 12 HARV. L. REV. 443, 460 (1899) (emphasis added); Oliver Wendell Holmes Jr., *The Path of the Law*, 10 HARV. L. REV. 457 (1897).

45. Of course, there are contrary values that may support leaving goals unstated in some instances. See, e.g., GUIDO CALABRESI & PHILLIP BOBBITT, *TRAGIC CHOICES* (Yale Press 1976).

46. Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65 (1983) (transparency, accessibility, and congruency with policy purposes as factors in determining optimal precision).

47. Robert Hahn & Robert Hird, *The Costs and Benefits of Regulation: Review and Synthesis*, 8 YALE J. ON REG. 233 (1991).

48. RISK, COSTS, AND LIVES SAVED: GETTING BETTER RESULTS FOR REGULATION (Robert W. Hahn ed., 1996); W. KIP VISCUSI, *FATAL TRADEOFFS: PUBLIC AND PRIVATE RESPONSIBILITIES FOR RISK* (1994).

49. Daniel C. Esty, *A Term's Limits*, FOREIGN POL'Y, Sept./Oct. 2001, at 126 ("Many flocked to the banner of sustainable development, but it led them nowhere.").

50. E. Donald Elliott, *Five Modes of Thought: Environmental Protection and the Development of Free Markets*, in RUSSIA, LAW, AND DEMOCRACY IN THE NEW RUSSIA 107, 122 (Smith & Danilenko eds., Brookings Institution 1993).

51. EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY, AND INTERGENERATIONAL EQUITY (1989); BRUCE A. ACKERMAN, SOCIAL JUSTICE IN THE LIBERAL STATE (Yale Press 1984).

52. JOHN LOCKE, TWO TREATISES OF GOVERNMENT 303 (Peter Laslett ed., 1960).

53. Professor Esty's own ESI may provide a possible empirical test of the theory that explicit statement of sustainable development as a goal would improve implementation of environmental policy. Our thesis would appear to predict that, *ceteris paribus*, nations that restate their laws to adopt sustainable development as a goal ought to improve their standing on the ESI over time. The difficulty with this simple-minded comparison, however, is finding an appropriate way to control for the fact that rhetoric may often serve as a substitute for substance. Thus, a state that adopts impressive wording about sustainable development may be doing so as a substitute for more concrete actions. See generally DAVID R. MAYHEW, *CONGRESS: THE ELECTORAL CONNECTION* (Yale Univ. Press 1974) (arguing that voters are more sensitive to the public "positions" that officials adopt than to their actual actions).

the huge body of legal and institutional history that constitutes U.S. environmental law. Thus, as often happens in government, the “best” can become the enemy of the “good.” If we are going to have any hope of integrating sustainable development into U.S. environmental law, we need to develop practical strategies for a “second-best” world.

The “easy way” would be for Congress to pass a simple “super mandate” that would merely state an overall goal for the U.S. system of environmental law to function as a lodestar to guide future interpretation and implementation. For example: “In interpreting and applying any law relating to the environment, all portions of the federal government (including departments, agencies, and courts) should consider that it is the overall policy of the United States to promote sustainable development.”

A declaration that the worldwide goal of sustainable development is also the goal of U.S. environmental laws would not override or repeal existing law. Thus, it is not vulnerable to many of the objections to the controversial so-called regulatory reform super mandates proposed in the 104th Congress to inject cost-benefit analysis into all environmental statutes.⁵⁴ What legislating the sustainable development principle as an overarching goal would do, however, is promote consideration of environmental policies from a more holistic standpoint in the future. Thus, as agencies and courts gradually re-visit environmental policies, even long-standing ones, the sustainable development principle would legitimize a reexamination from the standpoint of whether subsidiary policies really do promote the overall goals of the system.

For example, since the mid-1980s, EPA’s regulatory lore under the Resource Conservation and Recovery Act (RCRA) has subjected certain “secondary materials” destined for re-use or recycling to certain aspects of the regulatory system designed to control the management of hazardous wastes.⁵⁵ These policies have led to lots of litigation and uncertainty about what materials are and are not covered by the RCRA system.⁵⁶ These policies can perhaps be justified on the grounds that EPA’s primary mandate under RCRA is to protect public health and the environment from possible releases of hazardous materials into the environment, not to encourage recycling of industrial materials. But as a matter of sound overall environmental policy, the laudable goal of protecting the environment against possible releases of hazardous materials should be balanced against the benefits in resource conservation that re-use and recycling of materials may achieve. It is at least arguable that EPA either lacks statutory authority to consider the benefits from recycling such materials, or at the very least, that EPA has traditionally undervalued these benefits. A statutory lodestar of sustainable development would legitimate a reexamination of where to strike the proper balance between policies. It would structure a more useful and meaningful dialogue and reexamina-

tion of both existing and new policies from the standpoint of whether particular policies are beneficial to the overall goal of promoting sustainable development. This overall holistic approach to questions of environmental policy is particularly necessary at EPA, which unlike other agencies is generally exempt from NEPA’s mandate to engage in a comprehensive analysis of economic and environmental effects.

Similarly, many argue that EPA’s recent interpretations of its new source review (NSR) policies under the CAA are sometimes counterproductive in that modernization to plant and equipment that would actually *reduce* adverse environmental effects cannot be undertaken for fear of triggering expensive NSR regulations.⁵⁷ Whether or not these claims are true in fact, they illustrate the principle that a narrow focus on a single subsidiary environmental goal or statutory principle to the exclusion of other competing considerations may actually frustrate sound environmental decision-making. Decisions by agencies in the United States have long been subject to the criticism that they maximize individual agency’s or program’s goals without sufficient attention to other national goals.⁵⁸

By broadening the stated goals of our individual environmental laws to encompass the underlying principle of sustainable development we could enrich the ongoing policy dialogue to consider ultimate ends as well as subsidiary objectives, such as waste minimization or controlling plants with best available control technology. These subsidiary goals are useful and necessary, but they should be subject to question when they do not facilitate the overall goal of achieving sustainable development.

Moreover, harmonization and globalization of environmental law worldwide would be facilitated by adopting the same overall goal of sustainable development in the United States that is increasingly gaining acceptance worldwide.

Of course, adopting sustainable development as a goal or mission statement for U.S. environmental law would not instantly transform our environmental laws and policies. But it would begin a more productive dialogue than currently exists. Too often today environmentalists and industry are polarized by their single-minded pursuit of subsidiary goals. Agreement on the overarching goal of sustainable development can facilitate the search for common ground by defining a shared objective by which other policies can be measured more rationally.

Conclusion

Environmental law in the United States today only imperfectly reflects the underlying principles of sustainable development. Some progress has been made by some businesses acting on their own, and by laws that target other goals that correlate loosely with sustainable development. U.S. environmental law for the 21st century and beyond could be improved, however, by adopting more explicitly the principle of sustainable development, which is being accepted worldwide as the governing principle underlying environmental protection.

54. *See generally Reforming Risk Regulation: Achieving More Protection at Less Cost, Report of the Harvard Group on Risk Management Reform*, 1 HUM. & ECO. RISK ASSESSMENT 183 (1995).

55. *See, e.g.*, 40 C.F.R. §261.2(c)(1) (“use constituting disposal”).

56. *American Mining Congress v. EPA*, 824 F.2d 1177, 17 ELR 21064 (D.C. Cir. 1987); *American Petroleum Inst. v. EPA*, 906 F.2d 729, 20 ELR 21091 (D.C. Cir. 1990); *American Mining Congress v. EPA*, 907 F.2d 1179, 20 ELR 21415 (D.C. Cir. 1990); *but cf.* *Association of Battery Recyclers v. EPA*, 208 F.3d 1047, 30 ELR 20512 (D.C. Cir. 2000) (Agency not entitled to regulate on basis that material was not immediately reintroduced into process).

57. Press Release, U.S. EPA, EPA Announces Improvements to New Source Review Program (Nov. 22, 2002), available at http://www.epa.gov/air/nsr-review/press_release.html (“NSR has stood in the way of making numerous environmental improvements at many facilities across the nation.”).

58. *See* Lloyd Cutler & Steven Johnson, *Regulation and the Political Process*, 84 YALE L.J. 1395 (1975).

