

*Colorless Green Ideas Sleep Furiously: Is the Emergence of “Sustainable” Practices
Meaningful?*

John R. Ehrenfeld

Director, Technology, Business and Environment Program

Massachusetts Institute of Technology

Cambridge, MA 02139

jehren@mit.edu

The tree which moves some to tears of joy is in the eyes of others only a green thing which stands in the way. Some see Nature all ridicule and deformity, and by these I shall not regulate my proportions; and some scarce see nature at all. But to the eyes of the man of imagination, Nature is Imagination itself. As man is, so he sees.

William Blake (1757-1827)

“When the going gets tough, the tough go shopping.”

Anonymous

Introduction

The title of the presentation comes from a famous passage by Noam Chomsky (Chomsky 1957) showing that sentences that make sense syntactically or structurally may carry no meaning. So one might ask whether the emergence of green practices in firms signals a meaningful sea change or remains merely some familiar, but meaningless pattern. And further, given the spate of books and articles (for example see, (Hart 1997)) that suggest that [only] firms with sustainable strategies will be tomorrow’s winners, one should ask whether the moral or romantic exhortations that usually accompany these texts are sufficient motivators to induce a critical mass of firms to move to sustainable trajectories. Reasons to remain skeptical exist on both accounts.

I will telegraph my conclusions by suggesting that few, if any, of the many new practices being touted as green or eco-efficient or some other manifestation of sustainability are in fact sustainable. My argument does not follow the line of others who have seen the actions of firms claiming to be sustainable as strategic in a positive light or dissembling in a darker vein (Welford 1997). My argument stems from a more deep-seated, fundamental question about the meaning of sustainability itself. The basis of this

argument is that sustainability is a radical concept (or perhaps better to say revolutionary¹ as in the sense of Kuhn (1962)), unavailable within the existing set of institutional and societal action-producing structures or, as others might say, within the current dominant social paradigm. Indeed, the origin of the sustainability problematique can be attributed to the inadequacies of this current paradigm (Ehrenfeld 1997). Thus, on this view, any assessment of emergent new practices needs to be made in the light of their consistency with a different concept of sustainability. I will develop such a concept in the next section of this paper and follow with an evaluation of several types of corporate practices, including the offering of specific so-called greener products and services, new policy frameworks and collective sectoral codes of practice.

What is sustainability?

If one adopts the now familiar UNCED (Brundtland) definition of sustainable development (Sustainable development is a form of development or progress that “meets the needs of the present without compromising the ability of future generations to meet their own needs.”) as the operating principle for sustainability, then what is or is not a sustainable practice is both simplified and made opaque at the same time. It is simple in the sense that it suggests that the current social/economic system needs only to be made more efficient. On the other hand it clouds the fundamentally unsustainable character of this system and encourages an uncritical view of the current world situation and its trajectory. This definition begs many questions and has led to sets of criteria for judging new practices that are primarily means-oriented. One that the business community has created is the notion of eco-efficiency, basically promising more service or function while using less materials and energy. This idea parallels the call by many for vastly improved technologies in the range of Factor 4 to 20 more efficient than those they replace (von Weizsäcker, Lovins et al. 1997). I would argue that, while such improvements are necessary for the creation of sustainability, they are insufficient. Their failings spring from two sources: one is simply the insufficiency of efficiency improvements to counter the absolute impacts created by growth occurring at rates greater than those of the improvements. Such growth is expected and projected by virtually all models of near-term patterns of global development.

A second short-coming, and the one I will focus upon, is that this definition and associated criteria fails to capture the inherent radicalness of the very idea of sustainability. That more than technological improvements are needed has been foreseen by many scholars and critics coming from very diverse points of view and disciplinary bases. For example, Ophuls (1996) writes:

The human race has reached a critical point in its social evolution when it has no choice but to make peace with its biological origins and to learn how to live again as a member and partner of the natural community rather its dominator and destroyer. In other words, we must rediscover how to live as our savage ancestors once lived—in nature, rather than apart from it, much less above it. We

¹ Tom G. Ladwin, in some unpublished work, has deemed the concept of sustainability as “subversive,” but then drops this use in the published version. Although I believe his use is appropriate in a real sense, I think radical is a term that can be listened to by a wider audience.

must invent the civilized analogue of the hunter-gatherer way of life, the only truly sustainable mode of human existence the planet has ever known. Thus is not a call to return to the Stone Age: we have many possibilities open to us that were not available to our forebears, for we have been enormously enriched and enlightened by the long experience of civilization (or at least so one hopes). Nevertheless, how such a profound transformation of civilization toward a more experienced and wiser savagery can be achieved is obviously an immensely difficult problem, for it will clearly entail quite *radical changes in the way we think and act*. (emphasis added)

Some 20 years earlier the eminent psychoanalyst Erich Fromm wrote in a remarkable, prescient book, *To Have or To Be*, that, “The first crucial step toward [a healthy economy] is that production shall be directed for the sake of ‘sane consumption’ (Fromm 1976:176).” Fromm comes to this now central notion of sustainability from his psychological/therapist roots by observing the possibility of two fundamental modes of human existence—being or having—and suggests that the “having” paradigm that has come to dominate modern industrial cultures has turned pathological and only a shift to a “radical” alternate mode—“being”—can save both the human species and the natural world in which we live.² I cannot possibly do justice to the richness of Fromm’s text, but I will attempt to capture a bit of his set of distinctions. Fromm says that, “having and being are two fundamental modes of experience, the respective strengths of which determine the differences between the characters of individuals and the various types of social structures.” (Fromm 1976:16)

Having is a familiar mode of living in which identity is completely tied up with possessing. Being is much more diffuse as a concept. It is the experience of acting and leads to the sense of aliveness and connectedness that humans only rarely are aware of. Fromm notes that the beingness of experience has become lost in the modern linguistic practice of using nouns in place of verbs. One says, for example, “I have an idea” instead of saying “I think.” At the extreme the relationship of humans to each other and to the surrounding world collapses into a pathological identity, “*I am = what I have and what I consume.*” (Emphasis in the original). The implications for sustainability should be obvious.

Another feature that makes the Brundtland concept of sustainability development problematic is that there is no way to ascertain whether or not the momentary state of the world is sustainable—that is—whether the desired conditions will be present in the future. Sustainability is essentially not assessable other than to observe that the present world is, indeed, a flourishing place. Unsustainability, on the other hand, can be observed in the present and is a characteristic of our modern mode of living. Our knowledge of the rules that govern the transformation of the present to the future are doomed to be insufficient to allow us to determine whether the present conditions can or will persist into the future. Thus sustainability cannot be reduced to some deterministic set of characteristics and rules.

²The ontology of being is the central theme in Heidegger’s work (Heidegger 1962) and that of many works examining the nature of the post-modern world.

In seeking an alternative way to think about sustainability, I would argue that sustainability is (ontologically) a mere possibility that human and other life will flourish on the Earth forever. And flourishing means not only survival, but the realization of whatever we humans declare makes life meaningful—justice, freedom, and dignity. And as a possibility, it is a guide to actions that will or can achieve its central vision of flourishing day by day by day for time immemorial. Possibilities are empty, created by the declarative power of human language. Possibilities are unconstrained by the limits to action created by following deterministic rules which, in a paradigmatic sense are always the product of past experience and limit action to incremental change. If societies can escape the bounds of the existing mode of living, then all is, indeed, possible, even that which does not appear available from inside the existing paradigm.³ Sustainability as possibility is, thus, indeed a profoundly and radically different notion of world than those that dominate our current way of thinking. Sustainability is definitely not a technological characteristic of the global system such as is embedded in the term sustainable development, and yet its possibility depends on the nature of the system. It is a future vision from which we can construct our present way of being. This sense is clearly insufficient as a guide, although I believe it to be a very powerful way of thinking and acting about sustainability. Collapsing many current “definitions” of sustainability into a statement ontologically mappable as such a possibility, I suggest the following working definition:

Sustainability is a possible way of living or being in which individuals, firms, governments, and other institutions act responsibly in taking care of the future as if it belonged to them today, in equitably sharing the ecological resources on which the survival of human and other species depends, and in assuring that all who live today and in the future will be able to satisfy their needs and human aspirations.

Again compared to the sustainable development construct, I believe that this way of talking about sustainability is a radical conversation. It is directed at moral actors, not just utility maximizers, and not at some shapeless development process as is the Brundtland form. The Brundtland and related concepts of sustainable development are all inextricably rooted in the present dominant social paradigm (at least in the industrial world) and cannot be radical in the paradigmatic sense that I believe is essential. In the language of complex systems, the notion of sustainable development is an emergent property of such a system whereas the radical definition is focused on the actors within the system. One key word in the above definition is responsibility and I will use it as a criterion by which I evaluate whether corporate actions and greening is meaningful. Responsibility is important as it returns a moral dimension to economics (see, for example, (Etzioni 1989)) and deepens the role of the actor as much more than a resource maximizer. Robert Heilbroner, a noted American economic historian, has noted that (Heilbroner 1993):

³ The notion of paradigms, in the sense developed by Thomas Kuhn, and possibility are related. In a paradigm, the world and one's actions within it are constrained to working out problems in a “normal” manner. But when that “normal” manner no longer can solve problems, then one must or is free to create new possibilities in the form of a new paradigm which challenges the set of constructs as to how the world is and how one ought to act. Such, indeed, is the crisis of sustainability to those who see it as a crisis.

A second familiar, but no less serious objection [to economic-driven behavior] is that a general subordination of action to market forces demotes progress itself from a consciously intended social aim to an unintended consequence of action, thereby robbing it of moral content.

Robert Solow, an American Nobel economist, abandoned his traditional roots for a moment and said in a lecture that sustainability must be considered as, “an obligation to conduct ourselves so that we leave to the future the option or capacity to be as well off as we are (Solow 1991).” E. F. Schumacher (1973), another economist who also happens to be a philosopher and humanist, called for a radical change in humans arguing that the present social order (still much the same today as when he wrote) leads to a fundamental societal sickness which will become catastrophic without a radical change in the system and in individuals. Bennis, Parikh and Lessem, (1996:320), writing from a management point of view, state that, “The radical change arising out of the moral choice to pursue a course of [sustainability] must result in a change both in the shared values and in the vision of most commercial enterprises.”

I could expand and augment this discussion with a great deal more from the literature supporting the radicalness of sustainability. Such sources would include several on the idea of paradigm and its centrality in producing institutional or social patterns of culture and behavior (Kuhn (1962) and Giddens (1984), for example). But I will not here and move along relying on only two facets of the radical nature of sustainability as the basis for evaluating the recent evidence of the “greening” of industry. These two are sustainability innovations and practices that 1) bring about a shift in the underlying cultural structures that produce individual and collective action to embody a more explicit sense of responsibility toward other human beings, other species and nature itself, and the future, and 2) bring about a shift in the mode of acting by players involved from having to being, using the terms as Fromm defines them.

Responsibility means that every action taken would entail an assessment of the potential harm of that action to the possibility of sustainability along the principal axes of environment, equity and futurity. The meaningfulness then of corporate action with respect to the first of these radical concepts of sustainability would then be assessed by examining its so-called green or sustainable actions or practices and offerings to the market to see whether or not these activities do create or have the potential to create an enhanced sense of responsibility in either individual or institutional actors. For example, let us look at one of the most widely discussed examples of greening in the US. Interface Corporation has recently introduced a new product marketing concept called the Evergreen Lease for their office carpeting materials. Interface will now lease instead of sell the carpets, and plans to recycle the used stock they recover. While Interface touts the technical aspects of the concept as innovative, I would pick out the leasing structure as the “radical” aspect. Leasing does two things. One, it extends and explicates the responsibility of Interface for the product over, more or less, its entire life cycle. Previously, following the prevalent practice, Interface dropped off its products to its customers and, except for legal obligations, handed over responsibility for actions along the rest of its life cycle to them. It is the creation of a new domain of responsibility for the product or service that I would rate as consistent with the radical definition of sustainability, even though the idea itself, that of service provision, is not new. But in this

case it is new to both Interface and its customers and requires new ways of thinking and acting by both. While this example, in and of itself, does not equate to the immediate embedding of new responsibility-related moral structures at Interface, it shifts the cultural underpinnings such that such new norms are, in my view, likely to become more and more present to the actors in the firm.

Xerox also has embarked on a bold corporate strategy called “asset recovery management” in which they too see themselves as providing services rather than delivering products. Their vision is to completely close loops through reuse, recycle, and remanufacture of products they own and control, leasing them to their customers, but retaining all lifetime maintenance and disposal responsibilities.

Further, this concept has the potential to shift the mode of acting from having to being. Interface’s or Xerox’s customers can have their needs for office functions and amenities satisfied without owning anything, and perhaps, will begin to look for similar routines in other areas. So too, might the workers carry the same idea home with them and shift their domestic consumption patterns.

This argument is not, by any means, to say that vastly improved technological (that is, eco-efficient) systems for satisfying individuals are not important. Many of the emergent new forms of technology and infrastructure are, on many accounts, very different from those they replace. Such systems constitute technical improvements in the environmental, equity and futurity dimensions of sustainability. In the strict technological sense and within much of innovation theory (Afuah 1998; Song and Montoya-Weiss 1998), they might be designated as “radical.” But to the extent they arise out of the conventional domain of competitive market forces, they are not radical with respect to sustainability. Only if they embody the potential to shift the moral and ontological aspects of sustainability would I deem them as meaningful in the sense of this paper.

Evaluating Meaningful Corporate Practices

With this long preface in place, let me offer a description of what I claim an ideal sustainable firm would think and do. There may be other attributes to this ideal sustainable firm, but this list will do for the moment. It would:

- 1) use a set of “sustainability” tools to guide its actions,
- 2) operate with the same set of policies and standards in every location where it makes or markets its goods and services,
- 3) maintain high levels of employment and flatten wage discrepancy between management and workers (“The challenge of [sustainability] requires that movement towards a participative style of... management should accelerate in all kinds of company (Bennis, Parikh et al. 1996:324)),
- 4) market only services (and goods) that conform to a set of sustainability principles and performance measures based on the latest state of scientific understanding and on a set of societal values obtained by broad public participation,
- 5) focus on the services, as opposed to the goods, it provides to customers and strive to provide them in the least resource intensive and ecologically damaging form it knows how to design and deliver, taking account of lifecycle impacts over the entire value chain,
- 6) educate its customers and strategic partners along the entire life cycle value chain about the implications of their actions on sustainability and, thus, contribute directly to the formation of consumer preferences,
- 7) publicly report on all of its activities that impinge on sustainability, and
- 8) lastly, do all the above routinely and responsibly with its actions arising from a vision of sustainability and a set of normative values deeply embedded in its culture.

The first four of these items address the technical aspects of sustainability, and as noted earlier, are necessary, but not sufficient. Item 5 is a practical form of the notion of shifting modes of living from having to being. Items 6-8 are, similarly, practices that embody the notion of responsibility. If firms are to assume more responsibility as part of the legitimate set of social institutions that societies will rely upon to produce a sustainable world, firms will have to publicly account for their actions in domains now considered private. And finally I note the reference to “routinely” in the description of the ideal firm. Sustainable practice must become an everyday new form of business-as-usual. It cannot be a sideline or set of functions relegated to a group of technical specialists or merely a serendipitous event. Routines, in many models of organizational or institutional theory, arise from changes in the underlying paradigm or set of cultural attributes. It is this process of change and learning that gives the power to the innovations examined here and to others of a similar ilk. Whereas every technological advance may be a singular event in the historical unfolding of innovation, these radical offerings as defined here have the potential to produce continuous change and the emergence of new kinds of routines. It seems to me that a sustainable world can be built only on such a foundation. The following text is based on-going research and is a report of work in progress. The assessment reported below is partial and preliminary.

Greener products and services

For the past several months, our research group at MIT has been collecting examples of product and service innovations and incorporating them in a web-based searchable database (<http://tbe.mit.edu/gallery/>), titled "The Gallery of Environmentally Preferable Goods and Services." The selection criteria we used screen in items that have characteristics arguably both of a strongly innovative technological sense and of radical attributes in the sense of the above definitions. I will examine several of the entries and use them to continue the evaluation as examples of the meaningfulness of corporate actions.

SafeChem, a joint venture between Dow and RCN (a German Recycling Company) was initiated in 1994. In a standard chemical purchase, the supplier gives chemicals to the consumer in exchange for money, and that is it. SafeChem retains control of the chemicals over the entire life cycle of the chemicals, including the process use and disposal stages. The "rent-a-chemical" concept establishes producer/supplier responsibility and control for many of the environmental impacts of chemicals: worker exposure, recycling, reuse, and disposal. This concept has turned out to be profitable to both Dow and its customers and is being emulated by competitors. Like the earlier examples, it conforms to the radical concept of sustainability.

This type of innovation is quite different from those primarily technical in nature. For example, Electrolux has designed a solar-powered lawn mover that reduces greenhouse emissions and fuel use. SC Johnson has introduced a novel packaging system called Enviro-Box®, used in the distribution of their professional line of products. IKEA began in 1997 to market an inflatable line of chairs and sofas, designed to reduce material intensity and transportation burdens on the environment. While all of these are most interesting from a design point of view and have real positive technical contributions to reducing environmental burdens, they are not radical. So it is with most of the entries. It is interesting to note that many have won environmental awards for the innovativeness of the design. I suspect that this is further manifestation of the technical character of sustainable development and its variants today.

Eco-efficiency

This framework focuses on the inefficiency of material and energy consumption prevalent in current practices. Some 100 or so of the world's largest firms have lined up behind the idea of "eco-efficiency" through the World Business Council on Sustainable Development (DeSimone and Popoff 1997). Their notion of eco-efficiency has been offered as (WBCSD 1996) "the primary way in which business can contribute to the concept of sustainable development." They note further that:

Eco-efficiency is a management philosophy. It encourages business to become more competitive, more innovative and more environmentally responsible. The pursuit of eco-efficiency does not require companies to abandon all their current practices and systems. It calls for them to adapt these in order to achieve higher levels of economic and environmental performance through continuous improvement. This means a significant change from 'business as usual'... Although it is anew and unfolding concept, the vision of eco-efficiency is simply to 'produce more from less.'

The concept of eco-efficiency rests on “five core themes (DeSimone and Popoff 1997): (1) an emphasis on service, (2) a focus on needs and quality of life, (3) consideration of the entire product life cycle, (4) a recognition of limits to eco-capacity, and (5) a process view.”

The WBCSD has recently made some 10 or so cases of eco-efficiency in its member firms publicly available on the Web. I have reviewed these cases to see how well, if at all, they fit the radical sense of sustainability. In particular I looked for evidence of the concept of environmental responsibility included in their own descriptive (above). I found little evidence of any shifts in responsibility or changes in the mode of ownership (having to being) that could be attributed directly to the idea of eco-efficiency. Again, this is not to criticize the practices described as without a contribution to the reduction of resource demands. Chaparral Steel points to a more efficient and economically attractive reuse system of materials from baghouse dust, electric arc furnace slag, and automobile shredder residue. Millar Western describes a chlorine-free closed loop paper manufacturing process now used in several of their mills. Danfoss shows an improved water use program for a facility on a Baltic sea island that reduced demands on a failing aquifer that was threatening the viability of the plant’s operations and the well-being of the entire island population. Beacon Press (UK) has a waterless, low-discharge printing process. Azurel SA has introduced a line of energy-efficient building products based on Dow’s Styrofoam® polystyrene polymer. Ladish Malting solved an expensive treated water disposal problem by creating an artificial wetland. STMicroelectronics showed how it found a productive use for waste water treatment sludge by recycling rather than land-filling.

I found no evidence in any of these examples of any shift in the ethical basis of sustainability nor in the existential mode in which either the company or its customers act. The value or importance of these eco-efficient solutions was characterized by the WBCSD as falling into one of the following classes: cost savings, market expansion, or risk management. I would agree with the findings in these cases that they do serve as examples of getting to the double bottom line of both environmental and business benefits, but I see little or nothing that would conform to the view of sustainability being argued in this paper. The Danfoss example seemed to have been driven primarily by regulatory pressures, rather than any sense of responsibility independent of such requirements.

Two additional examples from the WBCSD website were somewhat different in nature and have the hint of a new sense of responsibility. Bristol-Myers-Squibb discussed a new process of product life-cycle reviews and development of an in-house database of some 240 Best Practices for dealing with environmental problems. While the particular examples given in the case are fairly mundane and do not embody the radical aspects of sustainability, the company appears to be seeking a more responsible stance towards its line of products. Similarly SC Johnson described the results of a self-imposed set of pollution reduction requirements and their process for continuously tightening their targets. While the technical nature of the individual projects is not remarkable, the process at SC Johnson, which includes dialogue with community and national interests, exemplifies a long-standing commitment to be good corporate citizens.

While more efficient use of resources is undeniably critical, eco-efficiency as a proxy appears to be an insufficient means to achieve the full sense of sustainability. Given these examples and the way they are presented by the WBCSD, the term “eco-efficiency” seems to send a message that a technocratic solution is available and that little needs to be done in reshaping corporate responsibilities and values.

Product Stewardship

Product stewardship is a shift in the sense of responsibility from merely delivering a product or service that meets its legal and warranty provisions to one which accepts responsibility across the entire product life cycle (DeSimone and Popoff 1997:32). It is the explicit acceptance of stewardship (in the sense of taking care of the environment beyond that which is mandated by law) that lends this concept power to alter corporate cultural structures. Further, from a sustainability point of view this broad framework is directly tied to the creation of a new ethical core. This concept challenges and pushes on the vision of a firm and its values. It forces designers and planners to consider issues left out of the customary focus on cost and performance. And it opens up the firm to new relationships with its suppliers, distributors, customers, and waste managers. It is the potential of raising a new consciousness of both responsibility and changing the mode of product and service delivery that lends a radical potential to these programmatic terms.

On the other hand, the practices currently emergent do not embody the full radical potential. The Responsible Care® program of the world chemical industry holds out its Product Stewardship code as the centerpiece of its program. The language of the Codes contains explicit statements that reflect the ethical sense of responsibility in the above radical working definition of sustainability. A related code dealing with distribution directs firms to stop doing business with customers who lack sufficient knowledge or competence to manage the use of the chemicals. It would seem, then, that actions springing from Responsible Care® are becoming meaningful. New product/service strategies, such as the SafeChem system of Dow and RCN, are consistent with these codes and may have been the outcome of an interesting mix of conventional strategizing and a new sense of product stewardship. The hesitancy of the last sentence is an empirical shortcoming, not a value judgment. Our research on the chemical industry is simply not sufficiently deep to make causal statements with satisfactory confidence.

Conclusion

Another way of investigating the meaningfulness of corporate actions is to look at the public statements being made by corporate spokespeople and in public reports. As a transition to the conclusion, I have selected two examples that have received a great deal of public airing. Robert Shapiro the CEO of Monsanto said in an interview published in the Harvard Business Review (Magretta 1997):

We're entering a time of perhaps unprecedented discontinuity. Businesses grounded in the old model will become obsolete and die. At Monsanto, we're trying to invent some new businesses around the concept of environmental sustainability. We may not know exactly what those businesses will look like,

but we're willing to place some bets because the world cannot avoid needing sustainability in the long run.

John Browne, Chief Group Executive of BP America, put the challenge somewhat differently. In a speech at Stanford University, Browne said, "It is a moment for change and for a rethinking of corporate responsibility (Browne 1997)."

The radicalness of sustainability begins to emerge in these two statements and in others by industry leaders. Some interesting new product and service ideas are showing up. And many of the new policy and self-regulatory programmes contain language that could be interpreted in the radical sense of sustainability. Whether these positive signs will grow is anybody's guess. An examination of recent, emergent practices in firms, on the other hand, leaves much doubt as to the embedding of the radical nature of the concept. Many critics of capitalism and of the modern competitive corporate form (see, for example, Korten 1995) argue that such practices, as suggested by the list of sustainable practices given earlier in this paper, could not be sustained in the simple competitive sense and that any firms devoted to operating out of them would not and could not survive. Others, including Giddens (1984) and Jonas (1973), argue that, in our modern world, technology has led to such a large separation in both time and space of the consequences of acting from the act itself that this separation confounds the knowledgeability and ethical intentions of the actor in the domain of responsibility. This feature of our world, I believe, is one of the root causes of unsustainability and of environmental problems in general. Even if firms have the best intentions as to assuming responsibility, the knowledge, legal and other institutional structures characteristic of modernity are presently unsupportive of such actions. I add this last note to alert those who might be tempted to use this paper as a polemic against the corporate world that the barriers to change are much more deeply embedded than are those arising just from in board room.

Returning to the title for a moment, perhaps, the future was hidden in Chomsky's deliberately meaningless sentence. Let me end by reconstructing his sentence word by word.

Colorless -- a metaphor for justice and equity.

Green -- an obvious connection to environment and nature

Ideas -- exactly what we will continue to need

Sleep furiously -- if I join these two, it might raise the image of dreams which occur during the intense REM phase of sleeping. Ideas coupled to dreams of a sustainable future are precisely what will be needed to move from the unsustainable present to the possibility of a sustainable future.

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