

AN INVITATION:

If there was no box to think beyond, only the ever-flowing sea, the wide horizon and the smallest grain of sand, would we see the pattern of a grand ecology that includes a human future?

Species have dominated the Earth before and passed on, but none have had our perspective; our capacity to imagine and innovate. “Saving the Titanic” presents a dozen strategies for revising our course before it is too late —and offers a timed response for how they might be put into practice.

The invitation is about the circles in which you as reader turn. If social networking has taught us anything, it is that community, which ties us to our most distant past, regenerates in self-selected futures. Each of you has a set of connections that links communities. With the active engagement of connected citizens and stakeholders, we have the capacity to transcend the aggregate and redirect the institutions which drive our fate.

The invitation is to take this essay, as one of the many clues to a sustainable future, and share it.

Regards,

Paul Freundlich,



Saving the Titanic



Strategies for Sustainability in a Global Economy

by Paul Freundlich

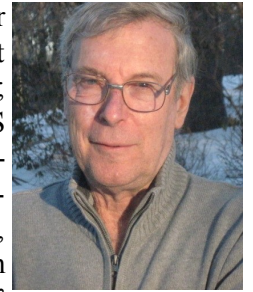
***To Joan Bavaria
and my CERES Coalition, Global Reporting
Initiative, Co-op/Green America
and Envirolution Colleagues.***

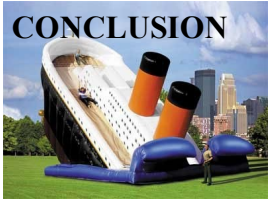
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**Credits: Jacki Dickert for the photographs on pages 29, 30, 32. Ap-
preciation for encouragement and editorial suggestions to Neva
Goodwin, Margaret Flinter and Rob Freundlich.**

Paul Freundlich is President of the Fair Trade Foundation; Founder and President Emeritus of Co-op (Green) America (1982-); Officer and a founding Director of CERES Coalition (1989-); member of the Stakeholder Council of the Global Reporting Initiative since '02, and Chair of the Council, (2007-09); Board Chair of Envirolution (2010-). He was Editor of "Communities" Magazine, and "Building Economic Alternatives"; past President of the Social Investment Forum, and for 18 years on the board of the International Labor Rights Fund. Paul served in the U.S. Army, the Foreign Service, directed an NIMH grant, "Training for Urban Alternatives," and "M-CAP," a demonstration project under the federal Healthy Communities Access Program. He holds an MA from the University of Pennsylvania where he was an Annenberg Fellow, and an AB from Union College. Paul has produced and directed more than 25 documentary film and videos essays on sustainability, accountability and community. He has published many articles, and his books include *Notes In Passing*, essays on five decades of engagement (2010), *Deus ex Machina*, a novel (2007), *The Most Amazing Night We Ever Spent*, a collection of short stories (2011) and *A Guide to Cooperative Alternatives* (1979). Both *Deus* and *Amazing* are available through Amazon. Films include ten for Peace Corps training and recruiting between 1965 and '68, among them two features, *A Choice I Made* (India) and *Peace Corps Togo* (Togo). Other films and videos include: *Questions Instead of Answers* (USA, feature length on a pioneering black education project in 1969); *A Model That Works* (1993, community health centers, with Ralph Nader); *Money Working* (1995, socially responsible investing); *For a Living Planet* (1999, 10 years of the CERES Coalition), *In the Beginning* (2007, the story of Dance New England, a social community built around dance which he launched in 1980), Recent projects include two videos, *Return to Agua Caliente* (a former Peace Corps Volunteer, now a senior USAID administrator returns to the community he helped energize 45 years earlier), and *HUB Matters* (innovative platform for global social entrepreneurship, with his son, Tim Freundlich). Many of his films and videos are accessible on YouTube.





All that is left of the Garden of Eden, where first we tasted the apple of knowledge, is a patch of rainforest in the midst of clear-cut indulgence. As God might have said to our progenitors on the way out, “Use it or lose it. Adapt or die.”

The ocean liner named Titanic was a symbol of man’s conquest over nature. From the deepest holds where workers labored to keep the mighty engines running, to the masses huddled in steerage hoping for a better life in the new world, to the pampered capitalists enjoying the fruits of their global dominion, to the Captain’s bridge where the officers steered what they believed was a safe course – the looming disaster came as a humbling, numbing shock.

Even as our captains of capitalism offer calculated apologies for their pride and greed, our truly titanic vessel sails on, carrying with it the aggregated hopes of billions. We are among the frozen icebergs of financial collapse, with the melting icecaps of climate disaster ahead. It’s going to take some careful maneuvering, but the sophisticated scientific consensus about the shape of the challenges we face gives us the equivalent of the radar that might have spared the Titanic.

The tools we have include the strategies presented. They depend on an orchestration that will demand our courage, imagination and invention. If we wind up listening to the band playing on the deck while the ship goes down, it will be our own damn fault, and nobody else’s.



The Doomsday Clock of the Bulletin of Atomic Scientists stands at five minutes to midnight. Originally conceived as a warning about nuclear catastrophe, it has broadened to include terrorism and the risks of environmental disaster.

Five minutes? How much time would the Captain of the Titanic have needed to avoid the iceberg that blocked his passage? Not much, because a simple turn of the wheel could have saved the day. Avoiding our date with destiny is a considerably more complex challenge.

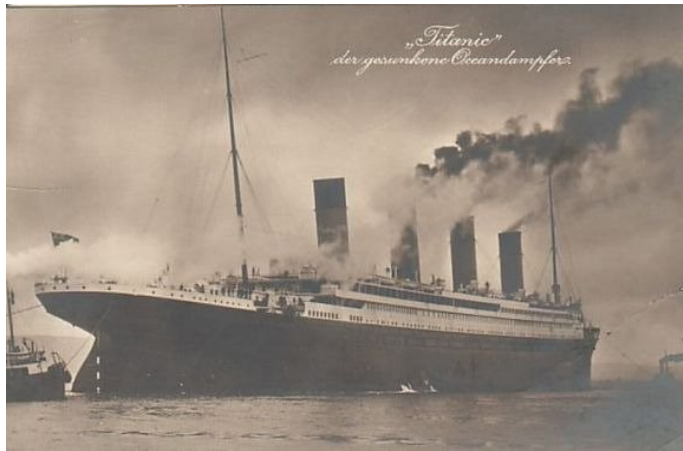
- A global, financial crisis has blown the assumption that a free and unfettered market will self-correct.
- The damage that has already been done to the environment will not be easily repaired, nor has the pace sufficiently declined.
- The waste of resources precious to our very survival continues.
- A relentless drive to maximize consumption raises expectations even as it creates vast disparities that fuel envy and rage.
- The public interest in research and innovation that creates long-term value is less than fully served by present entrepreneurial drivers.
- The village green where our communities may gather is

brown at the edges, encroached upon by the mass of concrete, overwhelmed by the inputs of marketing and slogans.

- The efforts of nations, much less cities, towns and individuals to behave creatively and responsibly seem wildly insufficient to the scale of the problems.

The Titanic was built to be impervious to nature. What if its captain concluded that the problem was the ship itself? Would the passengers and crew embrace travel in smaller boats? Could they cheerfully share the rations and settle in for some long, hard paddling?

If a major course correction, or even a change of travel, is called for, who is on the bridge, and where is the map we should follow?



THE CONTEXT FOR A SUSTAINABLE STRATEGY

Humans need food, shelter, clothing and the fulfillment of our primal directive to propagate our species. We naturally organize in families, tribes and communities. All the rest is embellishment.

But oh, what embellishment! Human life in the 21st century ranges from primitive simplicity to complexity that would have invited the envy of ancient gods. We fly through the air, adjust our environments to suit, communicate instantly by word and image, and create institutions that outlast generations. If we don't yet live forever, it's not for the want of trying.

As we transition to an economy that is driven by moderation rather than maximum consumption, we still will need most of the functions of a mass society: data storage and processing, internet services, mail, transportation make connections that speed the access and transfer of information and goods, even marketing as an honorable function. The differences are accounting for the real and long-term costs (minimizing carbon footprint, the responsibility of employers to employees, the remediation necessary to renew natural resources) and that the rewards for performing necessary, middleman tasks be relegated a more appropriate place in a revised hierarchy.



Operating System/Ecosystem. What cannot be solved at a local level is moved to regional and thence, if necessary, to global.

Taxation depends on adding value at every level, with an influx and outflow of money that is complex, yet transparent. The private sector is encouraged and rewarded to address real needs. Innovation in technology will often stretch beyond the limits of community, as newer virtual forms complement the continuing revolution in communications. Optimizing a workforce (particularly through the years of mandated community service) also moves from local to regional to global through an assessment of need for public works, with flexibility to provide satisfying options for the individual (think Peace Corps, CCC, Americorps).

Encouraging innovation, excellence and insight in tackling global and regional challenges is the business of government in a model that is transnational, federated, and closer to the EU than the UN.

Extending education and healthcare globally benefits society and local citizenship, with opportunities for meeting the intellectual, artistic, engineering and scientific challenges of higher learning. At the highest performance level of sports, entertainment and the arts, the richness of our diverse cultures is available through the global networks and the internet.

Population stabilization is a natural result of an improving standard of living that is measured in positive relationships, both personal and social. The hands of the Doomsday Clock are set back. Our ship sails on.

and management of long-term resources. What we haven't demonstrated is the capacity to create a viable ecosystem that operates anywhere close to the scale of a planetary society.

If we are to achieve sustainability at a global scale, we will need to restrain population growth and discover principles that mediate between community and complexity. Scale cuts both ways: scaling up to achieve efficiencies and scaling down to respect our personal and social connection.

What we have going for us is something that has never existed before in human history—a planetary operating system that, however inequitably and unsustainably, distributes the life blood of commerce and information. The world-wide web is a platform that makes thinking global and acting local more than a fantasy. The trick is to load updated applications that meet our standards of sustainability and encourage responsible behavior: operating system as ecosystem; platform as framework; applications as the ticket to diversity and imagination.

Consider these thematic and operational levels:



Applications/Community. A blend of private, public and commercial, cottage industries and co-ops, shops and parks, community gardens, hubs and pubs, dance halls and meeting places for socializing and entertainment, schools and spas for promoting education and health. These institutions reinforce the identity of neighborhoods,

providing a balancing counter to mass media and global business. The size of communities varies, but relates to the scale at which folks can easily know each other, and the ability to organize useful social and economic services. For instance, a healthcare team fits well with about 1200 patients. The model works for urban neighborhoods, and in towns, villages, even rural areas. Villages in Africa, Asia and Latin America may have a head start on achieving community.



Platform/Framework. To paraphrase John Dunne, "No community is an island." Between nurturing neighborhoods and the superstructure of global institutions, there are the protocols and mediation that allows flow.

From the industrial revolution, the conviction grew that the upward spiral of western civilization, ordered by manifest destiny and delivered by a dynamic market economy, would eventually bring wealth to everyone. If we stopped to thank Mother Earth for this bounty, it was more as a benediction. Occasional nay sayers like Malthus were brushed off as bad sports, and communism's spin on the respective roles of workers and capital seemed-passé by the year 2000.

Even when the spoils of short-term thinking, exploitation of resources, the consolidation and control of capital created huge disparities, so long as the flow of goods was maintained, the market economy remained attractive even to those who were unlikely to share in much of the bounty.

The recognition that there really might be diminishing returns is a relatively recent conclusion, dramatized by Al Gore's *Inconvenient Truths*, and driven home when a great global financial crisis called into question assumptions that ultimate wisdom lies in the marketplace.

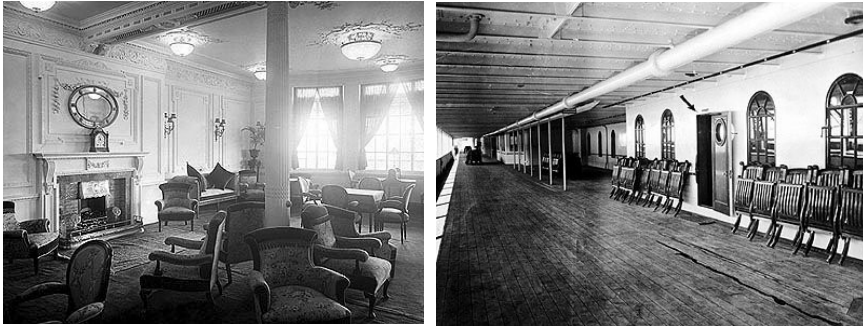
Thus once again, we face the question of how to serve human needs by organizing resources, labor, and the leveraging capacity of technology, but this time within the context of a planetary ecology. *How do we balance productivity with equity, long-term with short-term value? Endangered species, falling water table, and who gets what advantage? Is it possible to bargain with financial systems and elites that assume their entitlement will endure no matter what the cost?*

The fear of environmental catastrophe has been like that iceberg looming in the path of the Titanic. Yet fear is only useful as motivation to launch the lifeboats. If there aren't enough boats, if the panic of passengers is itself a disaster, if the seas are too rough – we're lost. Better is prescient planning to cope with the challenges when they occur. Best is a change of course.

We need a model and a time-line that offers not only fear, but also a compelling presentation of what the alternative has to offer: *Here are the benefits of a just, global economy that respects the environment, human rights and labor. Here are the rewards of a more cooperative society. Here is what corporations, labor, consumers, public interest groups and government (on all levels) will have to contribute at each stage.*

GOALS AND OBJECTIVES

The Titanic on its unconsummated maiden voyage had a destination, a crew and passengers, and a set of structural systems to make the trip both safe and pleasurable (particularly for those traveling first class).



There were also the environmental conditions which faced a ship deemed too big and powerful to fail. Understanding and integrating what have been written off as *externalities* is the key to any hopeful planning. There is considerable evidence that given the pace of global warming, expecting to avoid dealing with environmental and social consequences in even the most sanguine scenarios is unrealistic. What we are likely to have is a continuum of response that ranges from doing nothing, to major systemic change, with a big chunk of adjustments in the middle.

Step Five: A GLOBAL SUSTAINABILITY CULTURE.

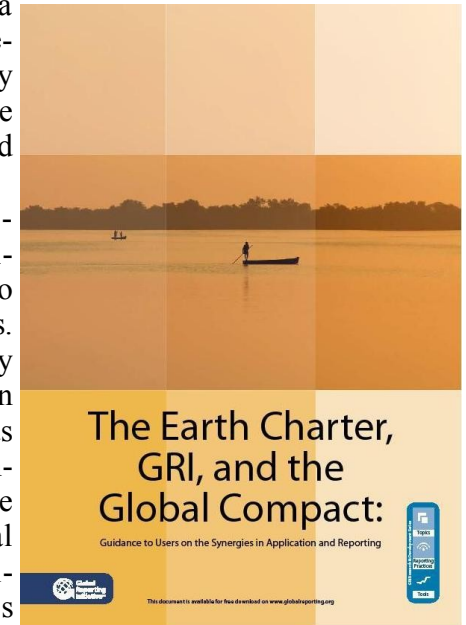
The final stage requires a global civilization that integrates all the strategies briefly explored in this paper. The challenge is both cultural and systemic:

Cultural because the acceptance and assumption of collective responsibility need to be expressed through our lives. Patterns of behavior are deeply embedded, but they can change. The exodus from gas guzzling vehicles, and consciousness about recycling are among the proofs that cultural shifts with behavioral manifestations happen when there is sufficient motivation.

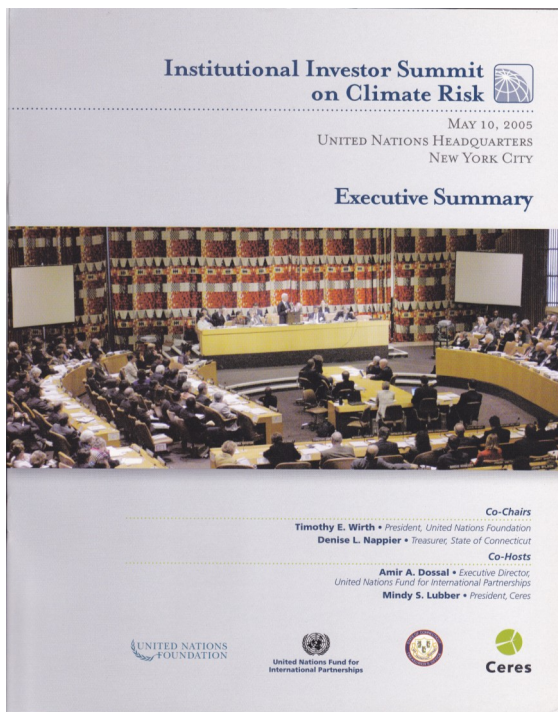
Systemic because, like the short-cuts and cookies on our computers, from the micro to the macro, there are a multitude of transactions required for an economy to function efficiently. A green revolution that is more than green *washing* requires the reinforcement of well-understood penalties and rewards.

Coordination is critical: Education can predispose customers to choose locally and organically grown foods, thus providing a market incentive for stores to prominently display them. Bottle bills were fought bitterly by soft-drink companies, but once instituted and reinforced by easy redemption points, recycling of containers became a standard modality. CAFÉ standards that mandated auto fuel efficiency complemented tax breaks for hybrids driving greater acceptance. Converting perception of cigarette smoking from a leisure pleasure to a guilty and dangerous addiction took a wealth of scientific data, massive PR campaigns, and restrictions in public places.

A sustainable culture is essentially a viable ecosystem. There are myriad historical examples of human societies that operated at a steady state of replenishment, consistent with the availability



Step Four: INNOVATION. *At the winter, 2008, Summit on Climate Risk at the UN, entrepreneur Vinod Khosla told of asking a leading scientist how long it would take to develop his particular approach to energy efficiency. The response was twenty-five years. Khosla then asked how many people were working on it. "Myself and two research assistants." "And how long would it take if you had thirty of the top engineers and scientists in your field?" "Oh, probably a year or two." Time is not on our side, and it will take a reordering of priorities to meet the challenges we face. Concurrent with the other steps, there is a push to develop more efficient technologies. The capacity to innovate has always been one of the "free enterprise" system's proudest boasts. The net result, however, has often been either products that had long-term, unintended consequences (e.g. unrecyclable plastics) or proliferation and redundancy (e.g. competing cosmetics with only minor variations spending*



billions on market position). A shift to rewarding entrepreneurial innovation geared to products that are actually useful in attaining sustainability, and whose consequences are neutral or favorable, would be a great leap forward. Taking those steps will require focus on innovation for what and for whom.

TRIAGING OUR DAMAGED SHIP



The metaphor of *Spaceship Earth* has been around at least as long as humans traveled beyond our atmosphere and were humbled and moved by the poetry of our verdant planet. The view of the melting poles and spreading deserts is unlikely to invite such enthusiasm. Will the new epiphany be about a ship threatened by plague, with rats desperately seeking an exit strategy?

Nursing an organism big as our planet back to health is no mean feat, and will take all our skills. There's so much to do, and it is critical to make priorities. *Triage* identifies relative risk in the light of available resources as the basis on which proper and timely interventions are made. In retrospect, the Titanic disaster could have been averted or at least the consequences improved by a better appreciation of externalities (fear of floating ice castles); a better analysis of internal systems (lifeboats); and the reorganization of roles might have dealt better with the tragedy than the confusion of loading lifeboats half-full.

If our ship is to survive, we need to reframe the dialog surrounding sustainability. Here are a dozen strategies worth considering:

Transparency and Accountability: Honest reporting of the corporate footprint allows for internal improvement and external scrutiny. The Global Reporting Initiative (GRI) Guidelines reflect the effort of thousands of stakeholders world-wide, and offer a respectable standard for reporting on the total impact of the business sector, already followed by thousands of companies.

The so-called “Triple Bottom Line” (tracking financial, environmental and social performance) provides useful markers to assess the true success or failure of organizations. Costs are calculated based not only on short-term overhead or materials, but variables such as recycling and downstream expenses for clean-ups and healthcare. European companies, particularly, have been sympathetic, but until the financial markets demand these calculations, it will mostly be a matter of public relations. The Triple Bottom Line also tends to reduce the impact of quarterly income statements (since it factors in long-term considerations) and force a more balanced evaluation of performance.

How: Continuing pressure on the financial industry and corporate boards to take reporting seriously. Beyond separate environmental and social impact reports, the most recent iteration is *integrated reporting* which brings together all components of the triple bottom line—social, environmental and financial—in one, integrated sustainability report.

Result: Assessments can be more easily made of individual companies, and aggregated data provides the big picture of industries, regions and global business.

Probability: Impressive progress in reporting over the past decade, and the flow seems in this direction. Yet the emotional and economic investment in business as usual is massive. Expect edgy but growing theoretical respect, with practical changes coming in those companies whose business is most related to environmental outcomes.



Step Three: SETTING PERFORMANCE STANDARDS

Aggregating the information and experience gathered by verified reporting on a regional and sector basis (and throughout supply chains) provides the basis for setting attainable goals for changed performance. Working groups, including business, finance, public interest, labor and governmental bodies are already collaborating on reporting. Next they need to be convened to revise and raise performance standards to meet sustainability targets. This process has been successfully initiated by CERES in the financial industry through the Investor Network on Climate Risk (INCR), the electric power industry and insurance industry, among others. Behavioral expectations for communities, neighborhoods, families and individuals should also play a significant role in improving performance: consumers and producers joined in a quest to be energy efficient through the products that are made, used and recycled. A carbon tax or cap and trade remain a hot topic of discussion. How much of standard setting will be voluntary and how much regulated remains to be seen.





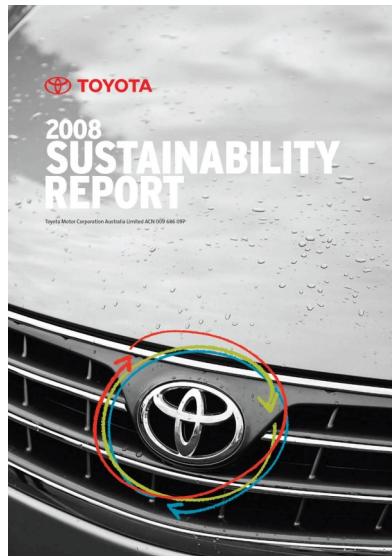
Step Two: TRANSPARENCY AND ACCOUNTABILITY In 2006, the Global Reporting Initiative issued the G-3, its third set of guidelines for reporting social and environmental impact. The guidelines are widely accepted and recognized by the United Nations, World Business

Council on Sustainable Development, G3 Reporting Framework

Global Compact, International Labor Organization, and myriad accounting and financial institutions. The G3 and its Sector Supplements provide the framework for reporters around the world through coordination by GRI's Technical Advisory Committee. Awareness about impact of our actions also involves governments, communities and individuals, and there are new tools being developed that offer measurable markers (www.globalreporting.org).



But a report, no matter how thorough or attractive is only the *basis* for changing behavior. Stakeholders (investors, consumers, communities, employees, public interest groups) need to be involved in the design and application of reports. To apply what we've learned requires protocols by which companies, as a matter of course, establish multi-stakeholder teams which have the opportunity and responsibility of critiquing corporate performance as an ongoing process.



Leveling the Playing Field (horizontal integration): In a global economy, there are huge disparities between standards of living, national policies and the cost of production. Those disparities will only be mitigated by a corporate and governmental commitment to leveling the playing field of competition. Individual



companies, like the GAP, have agreed unilaterally to improve conditions, far beyond what they could be forced to do, but seldom does one company control an entire industry. In the absence of international controls, companies can be encouraged to cooperate on industry-wide agreements establishing a base standard for wages pegged to local economies, and committing to safe working conditions, the right to organize, reduced environmental emissions and respecting human rights. Reaching agreements guaranteeing that business will not use the leverage of its purchasing power to exploit, if it is done in concert, will avoid an adverse selection against those acting for the future.

How: Companies already share agendas in trade associations potent as OPEC, and price-fixing upwards is not unknown. Establishing compliance standards would require a process analogous to GRI's successful development of reporting standards through multi-stakeholder collaboration, backed by the UN, EU and national governments. Moderating the rampant power of corporations through multi-stakeholder participation means that our common interest in a sustainable society is represented. The original intent of corporations as responsible citizens gains respectability.

Result: As this strategy is implemented, it will reduce the attraction of outsourcing. In this scenario, the real costs of environmental compliance and fair employment are added to the cost of doing business in even the poorest economies. The benefits are both to workers and environment in those poor countries, but also increased competitiveness for workers in industrialized nations, with consumers accepting marginally higher prices.

Probability: Positive signs in the apparel industry, but strong resistance from countries and businesses which see the supply of cheap labor as their competitive advantage. Not an easy strategy, but one of the most powerful.

Chain of Custody and Supply Chains (vertical integration):



In a global economy, rarely does the entire continuum from extraction, production, distribution and consumption, to recycling or disposal exist within one entity. The complex patterns of sub-contracting and outsourcing are an easy shield, and the purchasing power of corporate giants allows them the freedom to make policy and set pricing that carry all the way down the chain. Reaching agreements that result in companies taking responsibility for the chain of custody is an important strategy. The ILO (International Labor Organization) has taken a positive ideological position, though organized labor's practical involvement has been questionable of its reluctance to deal with industries and nations where unions are excluded or inhibited.

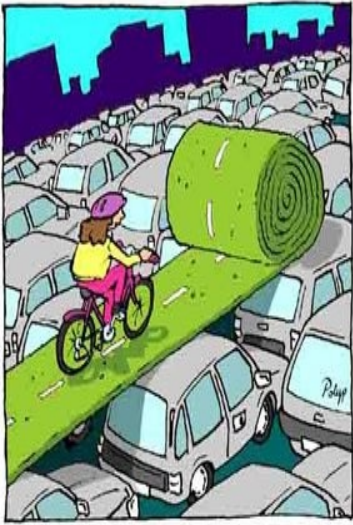
How: Under pressure from activists and investors, large companies set standards for vendors, and support verification (that vendors are living up to standards). Monitoring is strengthened by mediating NGOs such as CREA and New Standards, which connect local NGOs and workers with the verification process

Result: Verification helps vertically integrate the entire supply chain for each business, with the end user taking responsibility for the performance of smaller units of contracted production.

Probability: Once retailers stop hiding behind the screen of non-ownership, they have plenty of clout to effect change. There already has been considerable progress in several industries.

Step One: SETTING GOALS. Long-term planning has rarely been democracy's long-suit, but the environmental challenge of global climate risk is setting its own pace. We seem to be in the process of re-ordering priorities that include the organization of the marketplace, where to focus on innovation, and consideration of social and environmental impacts. The CERES Coalition (www.ceres.org) has developed a road map, "The 21st Century Corporation," that sets a practical, sustainable course.





Operationalizing a movement of planetary scale is, at best, a visionary exercise. We can barely understand the complexity of the present patchwork that constitutes the global economic system – as is demonstrated whenever we try to fix an interlinked set of disasters like the global financial crisis. Nevertheless, there is a likely sequencing of the strategies:

Localism and Improved Communications: Routinely shipping products thousands of miles, plus ordinary personal and business travel require vast expenditures of energy and natural resources. Rising costs are treated as an insult to our freedom, but they only represent belated recognition of a changing reality. Local production and working and recreating close to home are viewed by

the market economy as *quaint*, yet they signal a shift in practice that significantly reduces consumption. Reducing the scale of agribusiness and reliance on pesticides while moving to organics are all positive steps.

How: The internet and home access to entertainment have improved the quality of communications and diversion. Promoting video conferencing and other communications marvels; extolling nearby attractions; valuing the freshness of local produce through farmer's markets and fairs, the recirculation of currency within communities all help make *close to home* attractive. Paris has kept its neighborhoods viable by preventing food chains from encroaching on the local groceries and cafes that establish much of the city's character. In New Britain, CT, two square blocks have been transformed via irrigation and greenhouses into a productive urban garden feeding neighborhoods and servicing regional restaurants. Farmers markets and community gardens restate an urban reconnection to the earth in the most practical terms of self-reliance. Living and producing within our means includes the leveraging capacity of technology, but not without accounting for the long-term costs. From Davis, California to Summerville, Massachusetts, to Curitiba in Brazil, to pedestrian thoroughfares in Europe, the pre-eminence of motor transport has been challenged and redirected. Pedestrian and bicycle traffic suit both environmental and human scale functionality.

Result: A cultural shift to localism and reduced drain on resources.

Probability: Easier at the top where people have greater awareness and flexibility and at the bottom where folks make fewer assumptions about mobility. In the middle expect massive pushback on travel, but communications is a winner all around.

New Technologies to Suit the Times:



Nothing will be more productive than the development of technologies that support energy efficiency, address areas of environmental concern, or reduce major costs built into the present system. Alternative sources of energy like wind, solar, geo-thermal and hydrogen fuel cells are obviously at the top of the list; more efficient pumps that husband our fragile water supply; controlling emissions; stem cell research to alleviate the cost and human burden of caring for chronic disease. The long-term effects of genetic engineering need to be considered carefully. Germany, China, Brazil and Denmark are among the leaders in recognizing their economic future is tied to developing potent technologies.

How: Market forces encouraged by governmental and private incentives, including tax credits and loan guarantees for start-up financing. Envirolution, a non-profit, energy training company, has garnered funding from a mix of business, educational institutions and several levels of government by creating a core curriculum focused on youth, and a program that prepares them for jobs in energy audits and retrofitting. Envirolution has its first two sites successfully established in New York and Nevada, with most of their trainees from disadvantaged or minority neighborhoods.

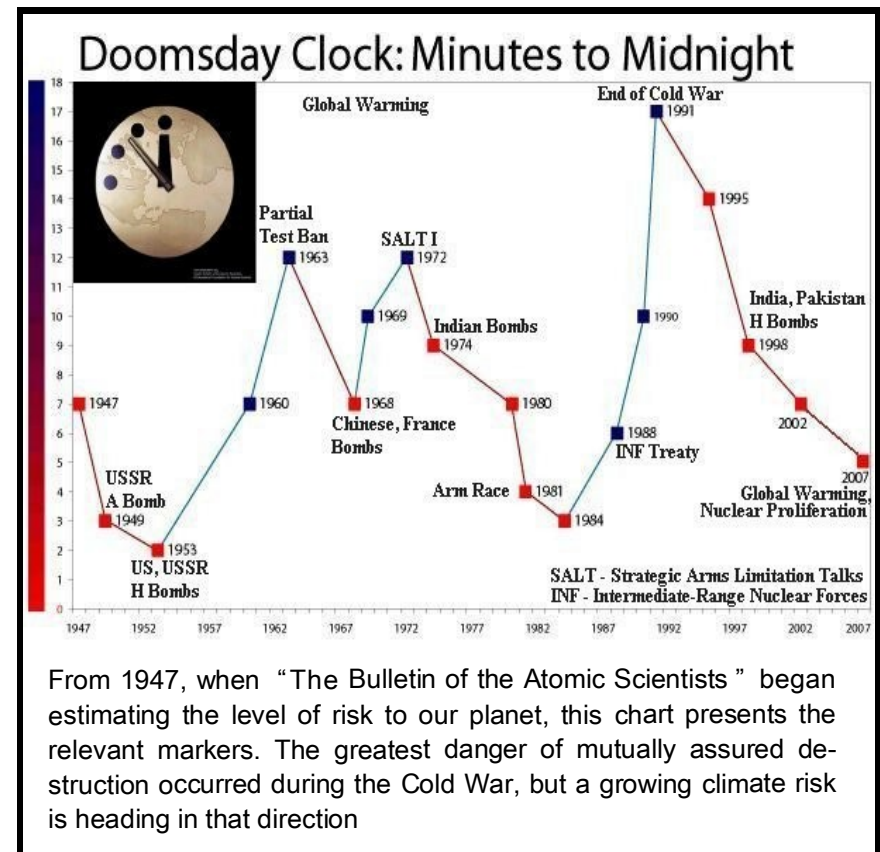
Result: Incentives for new and needed technologies spurs growth and increases efficiency, while reducing environmental impact.

Probability: This is one area where the market economy displays its strengths. Venture capital is moving swiftly.

how to do it, and social institutions can't contain the procreative drive.

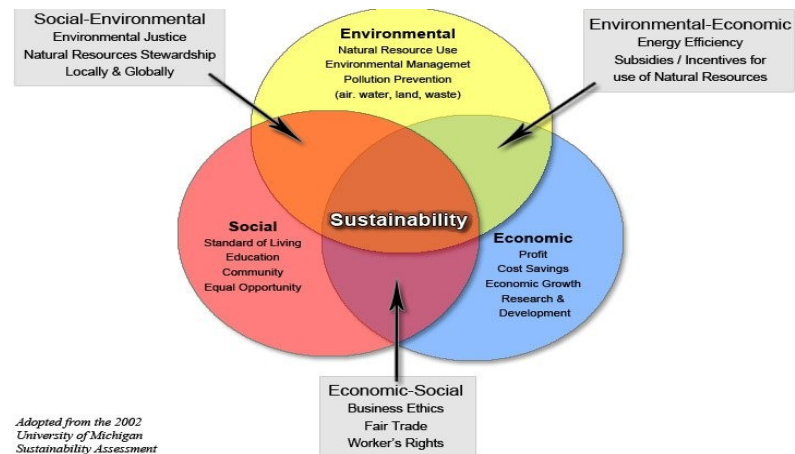
Perhaps if the strategies outlined could be implemented, a healthier world would encourage more prescient behavior: national policies that value life through a continuum beginning with childcare support, moving to education focused on citizenship, national service for youth, productive work related to the real needs of society, appropriate care for the aging. The more we identify and make a reality of quality of life, the less emphasis on quantity of life.

Humans have relied on our tools to bring us this far, and technology may yet see us through again. Yet greed and deceit have poisoned noble ventures in the past, and there are no guarantees. We know what a sustainable economy might look like. We know how far from it we are. The challenge is to get from here to there.



From 1947, when "The Bulletin of the Atomic Scientists" began estimating the level of risk to our planet, this chart presents the relevant markers. The greatest danger of mutually assured destruction occurred during the Cold War, but a growing climate risk is heading in that direction

A STAGED, STRATEGIC SUSTAINABILITY TIMELINE



Presenting reasonable, doable strategies is the easiest part. Human population is the 800 pound gorilla lurking behind every strategy we might consider. If King Kong existed, there wouldn't be room for him on Skull Island. Even if we could contain an insatiable and individually understandable desire for *more better*, the ability of the planet to support present population, much less population growth, is highly questionable.

The Four Horsemen of the Apocalypse were the metaphorical providers of an historical limit on population. War, pestilence, climate catastrophe and fiat may yet do us in. Yet one way or another, short of transforming brine into fresh water, and energy more directly into food, the touted extrapolations of 11 billion is not likely to happen. At 7 billion or less, we might just have the capacity to moderate disparities and muddle through to less draconian solutions.

The saving hypothesis has been that an emerging middle class and upward mobility neutralizes population growth. It has demonstrated some accuracy, but how does that fit with a world in which wages seem to be declining and wealth subject to greater disparities? Short of downloading human personality onto chips and storing us in that great hard drive in the sky, or beaming us to outer space, population (and a largely marginalized population, at that) is a daunting challenge to sustainability. Productive employment of billions seems beyond the present capacity of capitalism as it was beyond state socialism. Nations don't know

Renewing Old Infrastructure, and Fair Wages for Labor



Intensive Services: Deteriorating physical infrastructure is a critical issue in many countries, perhaps most seriously in the USA, where natural disasters have dramatically illustrated the tragic consequences of neglect. While the construction industry poured resources into building McMansions, there were bridges, tunnels, rails, sewers, electric cable, and gas lines ready to collapse or explode. In the USA, recession generated some political will to invest in public works that was vitiated by an emphasis on propping up the financial sector. Around the world, there is a critical need for sustainable forestry to fight the battle against global warming.

How: Governmental investment in infrastructure, and increasing minimum wages. An army of workers to rebuild our nations, with environmental efficiency paramount; a corps of workers to plant trees and preserve aquifers.

Result: Paying workers fair wages for work that is needed is the best way to democratize economies and provide both hope and the basis of consumption. Public works programs, financed by national governments and international lending (a re-directed IMF and World Bank), achieve a full-employment economy while shoring up vital services and renewing the environment. Many less skilled jobs can be performed through National Service, also serving as a bridge to full employment.

Probability: The political bankruptcy of national governments is visible in Lagos and Mexico City, and then there was the inept, verging on criminal response to Hurricane Katrina. Even in a sophisticated and risk averse economy like Japan, the exposure of fallibility in nuclear facilities was a sobering message delivered by the 2011 tsunami. Nevertheless, the dual priorities of endangered critical resources and the need for spreading wealth are compelling arguments for governmental interventions.

Recognizing and Integrating the Informal Economy:



In the poorer nations of the world, GNP ignores the self-sufficiency of communities, barter, and financial transactions that are undocumented and untaxed. The scale of these transactions ranges from growing one's own food and trading chickens for medical care, to prostitution and the drug trade. The traditional charm of the informal economy—reliance on personal trust and strengthening of community relationships—is almost as well-documented as the risks: usury, exploitation and violence. More dependable, institutional protocols may be worth giving up invisibility. In the past few decades, community investment vehicles like the Grameen Bank in Bangladesh have found mutual assurance for lending as a reasonable and reliable way of transferring money to support community entrepreneurship. A more mainstream example of the transition has been the inroads to lucrative gambling by casinos and government-sponsored lotteries.

How: Academic institutions taking the lead to identify mutual benefit; private, socially motivated investment by Calvert and other pro-active funds; governments willing to grapple with possibilities.

Result: Carefully studying the role of the informal economy, particularly in poor countries, could lead to a restructuring and encouragement of entrepreneurship along the lines of micro-enterprise lending. Serious consideration should be given to the ways in which a flow of money that presently poisons many economies and societies might be controlled and integrated. The interface between formal and informal remains mysterious, often because there is a cultural divide. Crossing that divide will have a few surprises to both sides, but also potential gain.

Probability: Low. There are cultural as well as economic and political reasons for the status quo, and the criminal cartels will not go quietly.

Restructuring the Financial System:



More than language, money has been the lingua franca and credit its hand-maid. Those who controlled financial institutions and other key middlemen (insurance, communications, etc.) reaped huge rewards. At the 2010, Investor Summit on Climate Risk, held at the United Nations, aggregated assets of more than \$22 trillion were represented, and, there was a general recognition that a chaotic marketplace, tuned only to short-term profitability benefited no one in the long run. Yet even if the present financial system were subject to better regulation, there is considerable evidence it's risky business on which to base a sustainable, global economy. The value of goods and services, even the importance of capital and labor, have been subordinated to transactional profiteering—the more deals, the merrier for the dealers, irrespective of the value of the assets involved. The financial sector has become self-serving to the point that any benefit to investors is, at best, collateral. Players in these high stakes games are unlikely to be content with lowered expectations, and the challenge is to restructure incentives to reward long-term performance.

How: Start by unbundling everything so that financial instruments are transparent; second, restrict financial institutions to specific functions (savings and loan, securities, etc.); third, raise the tax rates on short-term capital gains to encourage long-term investment. Within corporate circles, place limits on the manipulation of stock options by management (possibly by placing them in longer-term trusts).

Result: Quarterly earnings reports would be downgraded in importance: a snapshot of performance rather than the arbiter of success. Stock markets would still react to them, but by delinking bonuses and options, companies could be managed with a longer perspective. A gradual shift to a more responsible and accountable financial service industry.

Probability: The financial sector will fight for its prerogatives, arguing that any limitation will bring down the global economy. Significant change is unlikely.

Mandates: Whether it's revising risky lending practices, international agreements about the price of carbon, or local mandates controlling land and water use, there is a place for strict regulation. Governments differ widely in accepting a managerial role, but the financial crisis has pushed them in that direction. There are even indications that the business and financial sectors have some interest in clearly stated and

fairly enforced mandates that reduce confusion in the marketplace.

How: In the USA, no sector has spiraled out of control worse than healthcare. The bitter fight around the 2010 Affordable Health Care Act is as much about the role of government mandates as controlling costs. Embedded in the Act is recognition of government's responsibility to the health and well being of its citizens. It champions a resurgent role of primary care in preventing downstream reliance on costly interventions that is finally being recognized as key to re-orienting healthcare through school-based health care, stress on exercise and diet, locating in neighborhoods, and re-aligning the role of government to incentivize rather than cycle wildly between laissez-faire and command and control. In Connecticut, Community Health Center Inc. has successfully expanded to 14 towns and cities through a model that mixes centralized leadership, admin and quality control with local operational discretion, serving 130,000 patients with integrated medical, dental and behavioral health. Federal subsidies for low-income families make CHC Inc. viable, but for it and hundreds of other qualifying centers around the country, adopting best practices depends on a successful partnership with hospitals, specialists, community institutions.

Result: In sectors where the footprint of business is obviously detrimental to world health, rapid remediation.

Probability: The urgency for regulatory reforms rises and falls depending on political will sufficient to overcome the resistance of institutions which place a paramount value on their independence. At the least, some more stringent standards are likely to emerge for the financial sector, and increased regulations tied to environmental impact.



Cooperatives and Locally-controlled Franchising: Diversified ownership and local control has much to recommend it. Producer cooperatives are an important part of many of the smaller and more agriculturally-based national economies. The Mondragon Cooperative in the Basque region of Spain has its own bank, builds ships and refrigerators, and provides housing. Retail coop-



eratives, credit unions, housing co-ops, electric cooperatives all serve their members in industrialized countries. Franchising, where there is a cohort of owners who have a measure of independence, offers some parallel value of community ownership, while providing favorable access to global product sourcing, branding and marketing. Community ownership is most supportive of sustainability when the product or service is inherently valuable to life and health (healthcare cooperatives, Ace Hardware, IGA food stores). Developing replicable models that can be seeded around the world has the potential for establishing an output (goods produced and exported) input (goods imported and distributed) system that provides the benefits of globalization yet maintains local participation and some measure of product diversity, cultural style and integrity.

How: Working with governments to explore extending the cooperative model both by direct support as well as encouraging companies offering products and services that lend themselves to this kind of expansion and decentralization.

Result: An expanded cooperative sector, bolstered by franchise agreements, rewards local entrepreneurship, and increases community involvement.

Probability: Co-ops are inherently conservative and bring value in tough economic times. Franchising continues to be an important element of the global business mix, particularly in retail. Putting the two together is more of a challenge.

Interface with “Green” businesses, by competition or mergers and acquisitions:



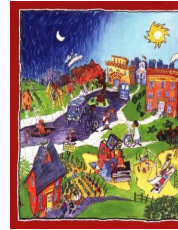
Multi-national corporations are not always on the cutting edge of product development, new industries or recognition of niche markets. Natural foods and organics have spawned multi-billion dollar sectors.

How: Ben & Jerry's was bought by Unilever. “Fair trade” labels have spread from small importers and retailers to mainstream catalogs and stores like Starbucks. The Hub is an international network of dozens of collaborative workspaces offering a convivial and sophisticated environment to park your laptop, and jam with other social entrepreneurs, and maximize the return on human ingenuity and investment. There are now HUBS in 28 countries. In aggregate thousands of aspiring entrepreneurs are testing their viability, exchanging ideas, and gathering resources. In the Bay area, HUB Ventures has successfully raised capital to energize start-ups with a model that has presumed competitors vetting each other's projects.

Result: With an economy more focused on a healthy, sustainable future, small businesses would be encouraged to ramp up their success. Large companies increasingly would see the initiatives of smaller businesses as a laboratory where new products and developing market niches can be explored.

Probability: Natural process, well underway.

Community and Simplicity:



Community and simplicity are the dominant mode for a good deal of that world usually referred to as “poor and underdeveloped.” Those descriptors are not meant as compliments. A great struggle is occurring that is cultural, economic and religious about the value of life – and death. Mainstream assumptions are already being tested in the Middle East and elsewhere. The probability of a meeting of hearts and minds is both absurdly optimistic, yet in the long run, crucial to our survival as a species. In that part of the world referred to as “developed,” downsizing our consumption works best when there are positive alternatives. There are pleasures to be found in traditional social entertainments, while the technology of the internet offers contact and breadth of knowledge without leaving home.

How: Jane Jacobs and Lewis Mumford were two of the 20th century's brighter lights in promoting a neighborly approach to the urban landscape. There are many European cities where the integrity of neighborhoods rests on design, as well as common ethnicity or class. Community Gardens, public libraries, urban green space, safe streets, farmers and craft markets are all part of encouraging social organization that is healthy for people and lessens stress on the environment. Affinities and communities are already undergoing redefinition through the internet. Dance New England is a network of individuals and member dances that gather to boogie on a weekly basis, with plenty of socializing and a big summer, family camp. Movement forms like Contact Improvisation, Tai Chi and Yoga are spread around the world through local jams, workshops and gatherings, yet maintain a sense of more universal connection.

Result: A collective revision of expectations to come to terms with the wealth and resources available. A variation of the Bhutanese Happiness Index replaces GDP as the critical measure of societal success.

Probability: At best, a long hard road. The right to consume anything and everything is deeply embedded.