Introduction

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The United Nations (UN) Global Compact was born into a time of optimism at the end of the twentieth century. Then it was often stated that the political and economic processes of globalisation needed only minor adjustments because the globalisation process per se would eventually and naturally deliver goods and services around the world. Indeed there were those who argued that this era was ‘the end of history!’ There was a belief that free market capitalism with a conscience could be delivered through the intervention of voluntary corporate citizenship initiatives like the Compact. As the Who said: ‘We know better now’. The double imperatives of climate change and economic collapse have made real the need for massive system change, a reorientation of the nature and purposes of business, and even, perhaps, a rethinking of what it means to be human in a globalised world. Yet we believe that change, even major change, is not only necessary but also possible. In researching our new book, SEE Change: The transition to the Sustainable Enterprise Economy, and in evaluating the UN Global Compact’s development over the last ten years, we have noted three things.

First, the world has adopted the new electronic communications and Web 2.0 technologies with a vengeance that is forcing global initiatives, such as the Compact, to ask themselves ‘What are we now and how should we operate in this new age of instant communication where traditional nation-state and many other boundaries are soft?’ For the Compact and other initiatives aimed at civilizing and taming the globalization process, the boundaries of organizational responsibility shift continuously. In these emerging forms, conversational groupings, such as the Compact’s regional and local networks, become organizations in themselves. The UN Global Compact is, as its originators envisaged, a network among others, a nested network. It is a forerunner of the new ways of organizing that are likely to populate the future.

Second, the possibility of ecological meltdown, akin to the on-going economic meltdown, forces us all to face a new reality. There is near universal agreement that global warming is happening now and that humanity must, at the very least, adapt, and in adapting, mitigate our impacts.

Third, since humans are inventive, creative, innovative, and problem-solving creatures, who can invent sub-prime mortgages, automobiles that only do 15 miles to the gallon, hedge funds, fast food, and nuclear bombs, they can also invent houses that are highly efficient, transport systems that carry people safely, happily, and with minimal impact on the environment, and food that is nutritious, safe, and healthy. Accomplishing these goals is not rocket science (although even that seems rather basic in light of the current demands on humanity). But it does mean promoting systems that reward efficiency, wellbeing, collectivism, and social justice, rather than, as at present, systems that reward selfishness, carelessness, greed, fraud, and individualism.

Our new socially networked world, which is living well beyond its means, desperately needs new forms of governance. Although progressives generally agree on what needs to be done, there is a problem in the current lack of courageous political and business leadership, at all levels of global governance and in all types of
institutions, to drive through the necessary changes. Enterprise and competition should once again become *instruments* to achieve public ends and not be the ends in themselves. Enterprise can be an agent for transformation and self-interest, but it must be regulated to ensure that it always delivers the *common good*, not just private gain.

There is great value in repeating the values on which the UN and the UN Global Compact are founded. Indeed there is merit in shouting them from the rooftops:

- belief in the rule of law
- pluralist politics and fundamental human rights
- liberal markets allied to global rules with clear, firmly supported multilateral governance.

But it is also now necessary to add two other principles:

- living within the Earth’s carrying capacity
- designing systems and communities with the goals of promoting peace, social justice, and harmony.

In standing on the top of the roof and shouting, it is necessary to remember that there are governance gaps in *all* countries and all institutions in all of these areas. There is much work to be done and we believe that the seeds of change for the better lie in what we are calling *SEE Change*, the move toward a sustainable enterprise economy.

This online publication, *The UN Global Compact: Looking Forward Ten Years After*, contains a collection of pieces inspired by issues that arose from the first ten years of the Compact. Some look back, but most look forward and ask questions about the ideas that lie behind the ten principles of the Compact. In particular in the last ten years, since the birth of this initiative, the climate change science has hardened and the world has moved on in many ways. Does the Compact address the compelling urgent reality that humanity now faces or is its language and intention too vapid, vacuous and vague? Or, is the Compact a platform on which can now be built a new society, a society fit for sustainable human adaptation—for there is no doubt that it is adapt of die.

Between 1998 and 2000, before the UN Global Compact and the Global Reporting Initiative and before most of the multi-stakeholder voluntary CSR (corporate social responsibility) initiatives that have been born in the last decade, we published fifty short pieces for free entitled *Visions of Ethical Business* in partnership with PricewaterhouseCoopers (PWC), the Financial Times, the Council on Economic Priorities (now Social Accountability International) and Warwick Business School. Then they were distributed for free in leading bookstores around the world. Today, ten years later we are publishing these ten new essays— as thought pieces, easily digestible, and online for free. In a sense now we have moved on from the voluntarism of CSR and there is talk of a new economy, the sustainable enterprise economy. So, rather than visions of ethical business there is now an appetite for *Visions of Ethical Society*—a systems approach which encompasses all institutions, all organizations and all individuals.

To introduce these short pieces, and to whet readers’ appetites, here are short extracts from each piece, which speak powerfully for themselves.

**Allen L. White** from the Tellus Institute, and one of the originators of the Global Reporting Initiative, writes about **seizing the transformational moment** where

‘the confluence of the climate crisis, the financial crisis and social crisis of profound global inequity have prompted many to question the viability of continuing the course of market capitalism as it has evolved in the last quarter century. We are witnessing a historical moment at which conventional assumptions about the global economy, and the institutions spawned by such assumptions, have outlived usefulness and are in urgent need of redesign’. . . . . ‘At this historical moment, we do not have time for deep despondency and anxiety, though there is plenty of reason for both. Instead, we should seize the transformational moment to repurpose and reconstitute institutions—corporate, financial, multilateral—in ways that align with the sustainability imperatives of the 21st century. Anything less runs the unacceptable risks of incremental, piecemeal change at a time when society needs something far deeper, structural and enduring to achieve a just and sustainable world’.

**Thomas Donaldson** from the Wharton School, University of Pennsylvania writes on **steps for global transformation** reflecting on the 2008-2009 economic crisis.

‘A spectre is haunting modern capitalism: it is the spectre of humanity. Initiatives such as the UN Global Compact are humanizing the face of capitalism, and this transformation demands explanation. In seeking explanations, we must not think that humans have become suddenly angelic; for they have not. But they have begun to awaken slowly to how global economic survival demands a fundamental makeover of global institutions,
one cast in the image of our shared humanity’ . . . ‘Psychologists speak of the ‘normalization of danger’ in instances where groups of people live with danger long enough that it becomes the norm, and hence accepted. In business ethics it is a powerful force and takes the form of what might be called ‘the normalization of bad behaviour.’ As Chuck Prince, the head of Citibank, famously remarked in the year before the crisis, ‘As long as the music is playing, you’ve got to get up and dance.’

Jem Bendell from the Asia Pacific Centre for Sustainable Enterprise at Griffith Business School in Queensland, Australia asks: What if we are failing? Towards a post-crisis Compact for systemic change.

‘Has the UN Global Compact failed? This question deserves as much attention as the search for evidence of success, if we are to be rigorous in our evaluation. Success or failure depends on what one seeks to achieve. . . . For it to have a positive future, let us assess its progress in light of the scale of the global challenges. Let us learn from the failure of economic governance. Let us learn from the possibility that we ourselves are failing to see uncomfortable realities due to our own careers and self-esteem. Because to learn about transforming our societies we must first be open to the idea that we might be failing ourselves. . . . Unless we learn to fail, we fail to learn.’

Jim Baker, Co-ordinator of the Council of Global Unions (CGU) looks at the Global Compact as a Sustainable dialogue

‘The crisis that surfaced in 2008 had its origins many decades earlier. Its causes are complex and profound. “Recovery” will not come simply from tinkering with financial regulations or through exhortations to leaders of Capital to behave themselves. . . . The “financialisation” of the economy—with all of the distortions that it brought—must be scrutinised and remedied. But, such questions need to be placed in the context of what, politically and ideologically, made it possible, even inevitable, that such distortions would occur. . . . The 10th anniversary of the UN Global Compact must not be an exercise in complacency and self-congratulation. In fact, it should not be seen as a celebration at all, but rather as an occasion to reaffirm its principles, reexamine its mission, and its role and potential to contribute to sustainable development.’

Andreas Rasche, now at Warwick Business School and who once worked in the Global Compact office in New York writes on The UN Global Compact: a critique of its critiques.

‘I want to give a brief response to those critiques that I think are missing the idea of the Global Compact. This is not to say that the Compact is without problems. Even, and maybe especially, new ideas like the Global Compact need to be critically evaluated in order to improve their organizational structure and operating procedures. However, I hope for more constructive assessments that consider the underlying philosophy of the Compact and its institutional environment. All of this is not to say that there are no ‘bad apples’ among participants, but that we should not criticize the Compact for something it never pretended and/or intended to be. . . . Another key challenge is the more active involvement of governments which have to create a legal environment for corporate responsibility to not entirely rest on voluntary actions. . . . The Global Compact is an essential idea which has helped to put corporate responsibility on the agenda of many companies. I am positive that when the history of corporate responsibility will be written one day, the Global Compact will find its rightful place: as an idea whose time had come.’

Stephan Harrison is climate change scientist at Exeter University and a reviewer for the IPCC. In a piece that does not reference the Compact he calls on us to learn from the history of climate change in an article that could also be applied to social systems as much as natural systems! What lessons does the past have for future predictions of climate change?

‘Nonlinearity is an important characteristic of all global environmental systems. It occurs at a range of temporal and spatial scales and controls the climate, and human responses to it. Implicit in such non-linear systems are the existence of multiple equilibria and thresholds (so-called tipping points); these force the system to exhibit rapid and unpredictable change. The interactions between the non-linear atmosphere, hydrosphere, biosphere and geosphere, and society are complex and form one of the main sources of uncertainty in our predictions of future climate and environmental change. It is clear that such uncertainty is of intense interest to human society as rapid change would impose a very severe burden on the stability of cultural, economic and political (as well as ecological) systems. There are plausible system thresholds that could overwhelm the capabilities of humanity to respond. However, policymakers are only partly aware of the nature of threshold responses in the climate, the non-linear feedbacks that these create and the probabilities of rapid change. . . It seems likely that the models will underestimate rather than overestimate the climate sensitivity over the long run, because they omit relevant variables. It is also likely that the regional response to GHG forcing will be beyond the current capability of GCMs and Regional Climate
Models (RCMs) to resolve. This makes more urgent the move to a sustainable global economy and society.’

Steve Waddell is the originator of Global Action Networks (GANs) and in his piece he asks if GANs are a new form of global governance?

‘The 20th century was a century of incredible organization creation. The 21st century is a century of innovating with networks and global systems. We are still in the early stages of understanding the networked world, but the outlines are becoming clearer as a fourth stage of complex network development unfolds. The Global Compact is now playing with this fourth stage. . . . In the end, a world of GANs is one with a new form of global governance where organizations like the UN participate as members, rather than being in charge.’

Following Stephan Harrison’s climate science piece is David Vidal (Director of the Center for Corporate Citizenship & Sustainability at The Conference Board in New York City) who is inspired by James Lovelock in Shaking heaven and Earth to survive.

‘In 2006 in The Revenge of Gaia: Earth’s Climate Crisis & The Fate of Humanity, the British scientist James Lovelock describes a world set on a collision course with itself. At one level he sees the self-regulating marvel of the planetary climate system he calls Gaia. On the other, he chronicles more in sorrow than in anger how the human species has pushed this system to a point of no return. Earth and Gaia will survive says Lovelock, but it could well be at the cost of human civilization. . . . The transition to sustainable enterprise models will be a difficult birth of a civilization seeking to reverse the suggestion by Lovelock that Gaia may survive but we may not. With a challenge of that magnitude, how can we do any less than to shake heaven and earth to prove Lovelock wrong?’

John Elkington, founder of SustainAbility and Volans and wordsmith extraordinaire (‘triple bottom line’ is his) writes of the emerging new economy: The Phoenix Economy, which he says is taking root in the best of times, the worst of times.

‘Evolving, stress-testing and rolling out new paradigms is one of the toughest, least understood challenges we face as a species—and to date has largely happened as a result of trial and error. . . . Our argument builds on the fact that 20th-century capitalism was driven by alternating ‘Bull’ and ‘Bear’ markets, with the 21st-century’s first decade seeing the collapse of the greatest bull market in history. We now see early signs of a very different oscillation, between ‘Dragon’ and ‘Phoenix’ mindsets—as the credit crunch is followed by energy and climate crunches. . . . To date, Dragon economies—think China—have focused, at best, on a double bottom line of economic growth and the maintenance of sufficient social cohesion to keep the national locomotive on the rails. In hard times, Dragon mindsets are likely to default to economic nationalism. The Phoenix Economy, by contrast, blurs across national borders, working to integrate the triple bottom line of economic, social and environmental value added into its market DNA—a ‘triple helix’ of change.’
The confluence of the climate crisis, the financial crisis and the social crisis of wealth inequity has prompted many to question the viability of continuing the course of market capitalism as it has evolved in the last quarter century. We are witnessing a historical moment at which conventional assumptions about the global economy and the kinds of enterprises it spawns have outlived their usefulness. New definitions of purpose and new forms of ownership and governance—in short, new designs—are urgently needed.

Drawing inspiration from figures ranging from Smith to Marx to Polanyi, those questioning the core tenets of market capitalism are calling for new structures that will enable a transition to a just and sustainable world. Such rethinking has served as a reminder of the critical, and often forgotten thread that binds the great economic thinkers of the past: that the economy is a means, not an end; that it operates within a broader social milieu; and it must be designed and managed to serve a higher societal purpose of bringing well-being and justice to all.

This emerging consciousness is reflected in the language of Polanyi-inspired ‘Next Great Transformation’ such as the ‘Great Turning’ championed by David Korten and the “Great Transition” advocated by Paul Raskin and colleagues through a global network of theorists and practitioners committed to transformational change. These mirror the belief that the early 21st century is a pivot point for shifting from a world of fragmentation, inequality and injustice to a planetary civilization characterized by solidarity, community and ecological preservation. In the words of Tariq Banuri, ‘Earthland’ is waiting to emerge once thepolitical will of global citizens is fully mobilized in support of transformational change.

Fueled by the bubbles, busts and recession of the last decade, this rising call for structural change inevitably requires an examination of the role of enterprise in reshaping the course of 21st century development. The sheer scale of many global enterprises—larger than entire national economies in some cases—spotlights the unfulfilled promise of commercial enterprise in terms of harnessing the power of innovation, competitiveness and wealth creation to achieve a purpose higher than shareholder value: the well-being of all the planet’s citizens and societies.

Amidst there turbulent times, the very concept of enterprise has entered a period of unprecedented experimentation. Hybrids that combine the characteristics of for-profit and not-for-profit organizations, and stand-alone social enterprises and mission-driven organizations are emerging at an accelerating rate. These trends are blurring the traditional boundaries between the commercial and non-commercial sectors, opening up new possibilities for bringing the power of business to bear on addressing urgent global issues such as climate change, poverty and access to basic health care.

Against this backdrop, many are asking whether the traditional corporate responsibility (CR) is capable of responding to the imperative of transformational change in business-society relations. Indeed, the very fact that this question has arisen suggests deep skepticism about shortcomings of corporate responsibility (CR) as we know it. Can it be more than a discretionary and vulnerable commitment to social purpose? Does it hold the promise of finding its way into core business strategy even among its most
ardent practitioners? Is business prepared to elevate its contribution to societal well-being to achieve the highest aspirations of a world fraught with social and ecological risks?

In the quarter century since the inception of the CR era, progress among some leadership companies is undeniable. But equally undeniable are broader questions about the long-term prospects of CR as force for social good. An impartial view of the breadth and depth of CR’s impact across the tens of thousands multinational companies and the millions of small and medium-size enterprises, leaves the impression that movement is, no more and no less, an exercise in treating symptoms rather than root causes. In practice, CR’s progress remains highly uneven in areas such as labor standards in the supply chain, carbon emissions from processes and products, and respect and promotion of human rights within companies’ sphere of influence.

The explanation for such shortcomings may not be attributed to the paucity of standards and norms for management systems, products and services and transparency, all of which have proliferated in recent years. Nor should they be attributed to knowledge deficiencies within the business community within which modern communication technologies have virtually leveled the playing field for information across countries, sectors and even competitors.

Why, then, do socially undesirable practices persist in the business community despite the efforts of associations, governments, civil society and other stakeholders to drive CR performance to levels commensurate with the great challenges of the 21st century? The answer, I believe, is the failure to address root causes rather symptoms. By root causes I mean issues such as the legal and de facto definition of the purpose of the enterprise, its ownership and control, and its capital structure and its reward and incentives systems. Issues such as these, which rarely appear on the CR agenda, in fact underlie the shortfalls manifested in the labor, environmental and human rights practices of companies.

If business is to achieve its full potential in the 21st century as an agent of social benefit, the CR agenda must shift from a focus on discretionary action and minimization of harm to organizational redesign and maximization of social good. Organizational redesign must ensure that public benefit is not incidental to the activities of the enterprise, but instead central to its very raison d’être and attendant ownership, control, and governance structures. Already we see examples of this public benefit orientation in firms such as Novo Nordisk (Denmark), John Lewis Partnership (UK), IKEA (Sweden), the New York Times and Organic Valley (US), and Tata Group (India).

From a capital markets standpoint, the transformation we envision here must be accompanied by shrinking and repurposing the financial sector from one that is increasingly dominated by trading and gaming risk to one whose core purpose of providing the ‘real economy’ with a stable, affordable and patient flow of capital. The fundamental flaws that have brought the global economy to its knees should be viewed as an opportunity to rein in practices that, at their core, enable and encourage financial institutions to create systemic risks that endanger the lives and livelihoods of millions worldwide. It is time to bring an end of the practices that feed off market churning, enable opaque financial ‘innovations’ that foster excessive risk-taking, and undermine stewardship of ecological, human and social capital by distorting real value from the vagaries and irrationality of capital markets.

Finally, we need to rethink the conventional wisdoms and sacred cows that have outlived their usefulness and are fundamentally misaligned with socially-purposeful enterprise. Among the most injurious of these are: the notion that share price is the ultimate measure of an organizations performance (as opposed to enrichment of ecological, financial and social capital); that spreading risk equates to reducing risk (as opposed to the reality that risk spreading accelerates, in viral-like form, systemic risk in the financial system); and that fiduciary duty should prioritize the interests of capital owners (even in the face of mounting evidence that human capital and intangible assets play a decidedly more significant role in long-term wealth creation).

At this historical moment, we do not have time for tinkering around the edges of conventional business practices. Instead, we should seize the transformational moment to repurpose and reconstitute organizations—both non-financial and financial—in ways that align with the sustainability imperatives of the 21st century. Anything less runs the unacceptable risks of incremental, piecemeal change at a time when society needs something far deeper, structural and enduring to achieve a just and sustainable world.
3

Steps for global transformation
The 2008-2009 economic crisis

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A spectre is haunting modern capitalism: it is the spectre of humanity. Initiatives such as the UN Global Compact are humanizing the face of capitalism, and this transformation demands explanation. In seeking explanations, we must not think that humans have become suddenly angelic; for they have not. But they have begun to awaken slowly to how global economic survival demands a fundamental makeover of global institutions, one cast in the image of our shared humanity. Nothing demonstrates this more decisively than the 2008-9 economic crisis.

As I have argued elsewhere (Donaldson 2003), a more humanized global economy demands that Trans-National Corporations (TNCs) take two steps forward in their strategic thinking. These steps are (1) ‘egoism’ and (2) ‘cooperative egoism’. By understanding these two steps, and seeing how confronting economic shocks like the 2008-9 economic crisis requires attention to both steps, we can plot the future trajectory of the transformation itself.

The first step necessary for transformation is ‘corporate egoism’. Many corporations remain locked into an outdated, overly-simplified conception of ethics in business in which ethical behaviour is either clever advertising or a costly luxury. This conception flies in the face of the many empirical studies now available that show the powerful and sometimes hidden financial benefits of at least many corporate ethical behaviours. (Margolis and Walsh 2001) Indeed, some principles of the Global Compact can be justified simply by showing that following them will make a company more money, assuming at least that doing so doesn’t cause significant auxiliary harm or violate other key ethical principles. Principle 8 of the Global Compact, for example, encourages companies to ‘undertake initiatives to promote greater environmental responsibility’; but as is often noted by management theorists, investing in unsustainable production methods that degrade the environment usually results in a lower, long-term financial return than investing in sustainable methods.

The second rung is ‘cooperative egoism’, and is important because not all corporate behaviours needed for the humanization of the global economy are justified through simple, self-interested strategizing by individual corporations. Some behaviours, rather, demand a cooperative strategic orientation. Consider, for example, corporate responsiveness to moral rights in the absence of a global government regulator. Rights, by their nature cannot be hostage to consequences. This is true regardless of whether the consequences are individually or corporately created. Put simply, any moral agent, corporate or individual, should honour a right because it is the correct thing to do—period. This ‘deontic’ and unconditional nature of a right means that if it should happen that a company’s act of honouring of a particular right will result in retarding the long-term self-interest of the corporation, the right must still be honoured. However, a company’s honouring rights can nonetheless be justified often by “cooperative egoism.”

What I’ve called elsewhere the ‘efficiency hypernorm’ (Donaldson and Dunfee 1999) requires corporations to co-operatively adhere to principles necessary for systemic market efficiency. Consider the right of an investor to
companies understand that in the long-run non-deceptive information has the effect of benefiting all. The same holds for many human rights. Honouring the universal rights to property, non-discrimination, and freedom of movement, rights enshrined in many global documents including the UN Universal Declaration of Human Rights, benefit the long-term economic interests of individual corporations in the long run, at least so long as other corporations do the same.

These, then, are two of rungs of the ladder that TNCs must ascend to transform and humanize the global economy.¹ Both rely ultimately on what might be called ‘enlightened corporate egoism’. Corporations have a long way to go to achieve such enlightenment, as can be demonstrated by the economic failures of the 2008-9 economic crisis. Even more important for our purposes is the prospect that two of the very steps necessary for the future humanization of the global economy are the very same steps needed to avoid future economic crises.

We begin to understand the convergence between prudent crisis avoidance and humanization by noting the fact that the 2008-9 economic crisis was disastrous not only for individual citizens but also for corporations. The names, AIG, Bear Sternals, Lehman Brothers, Merrill Lynch, Fannie Mae, Freddie Mac, Royal Bank of Scotland, and General Motors, bear stark testimony to the massive corporate damage that occurred. Corporations did not just damage people; they damaged themselves, sometimes fatally. Even more relevant is the fact that among the critical factors sparking the 2008-9 crisis were a handful of ethical failures. These include ‘pay-for-peril’ and ‘the normalization of danger’. Each of these ethical failures, in turn, can be controlled or eliminated in the future if corporations evolve their strategic thinking to include individual and cooperative egoism.

¹ Pay-for-peril

Pay-for-peril refers to the phenomenon of rewarding short and suffering long. Firms pay huge salaries and bonuses to managers for actions today, even though the firm’s rewards or penalties for those actions happen tomorrow. Such systems encourage bad ethics and rationalization. High performance can be faked short term. Part of the phenomenon even has a formal name: the ‘Taleb distribution’. This is a distribution with a high chance in any period of a handsome gain with a low chance of a massive loss. A Taleb pattern can easily tempt a manager to gamble on a ten percent annual risk of disaster in order to reap a big bonus. He knows that it is not his money he is gambling and probably that his action is wrong. He also knows that if the one-in-ten chance occurs, then he must find a new job, but the day-to-day odds are in his favor. Traders and others even have a name for it: the ‘free option’. Traders have the ‘free option’ on their performance. As Nassim Nicholas Taleb remarked, ‘They get the profits, not the losses. . .[and] it is a vicious asymmetry’ (Taleb 2009).

Notable about pay-for-peril is that it creates huge financial risks for corporations, and is directly opposed to the companies’ long-term interest. Fairer remuneration practices by firms are justified, thus, by a simple appeal to enlightened corporate egoism. Indeed, by the summer of 2009 dramatic changes were already occurring in the structure of bonuses and remuneration in the wake of the financial crisis—even beyond that required by new regulations.

² The normalization of bad behavior

Psychologists speak of the ‘normalization of danger’ in instances where groups of people live with danger long enough that it becomes the norm, and hence accepted. In business ethics it is a powerful force and takes the form of what might be called ‘the normalization of bad behavior’. Where, we might ask, were the bosses who prior to 2008 should have stopped the Taleb gambles described above? Bad practices became institutionalized prior to the 2008-9 crisis, and initial quasiness gave way to industry-wide acceptance. For any given firm to have abandoned the rewards promised by securitized, sub-prime mortgages, for example, might have placed it at a large, short term disadvantage in the industry. As Chuck Prince, the head of Citibank, famously remarked in the year before the crisis, ‘As long as the music is playing, you’ve got to get up and dance’.

Creeping industry precedent is common. When, in the late 1990s, accounting firms discovered novel, legally suspicious tax shelters for clients, most of the big accounting firms eventually embraced them—at heavy long-term cost. And when, in the early 1990s investment banks first saw the research showing that investment bank analysts tended to give higher ratings to client companies’ stocks, they continued to reward analysts partly with an eye on client involvement—until the government finally blew
the whistle. Industries often permit and finally accept a practice that enriches the short term only to impoverish the long term.

Notable about the normalization of bad behavior is that it creates huge risks for industries as well as society at large, and is directly opposed to long-term corporate self-interest. Cooperative arrangements in which, for example, industries agree to establish markets and accompanying market standards for, say, the sale of securitized debt such as sub-prime mortgages, are thus justified by a simple appeal to cooperative corporate egoism.

What, then, can we learn from examining these two ethical roots of the current economic crisis, i.e., pay-for-peril and the normalization of bad behaviour? One thing is certain. Government regulation will not be the only answer. In the absence of a single, global regulator with broad means of enforcement, the creation of which most observers agree is impossible, TNCs will continue to operate in a multiplicity of jurisdictions. They have learned well the game of playing one off jurisdiction against the other. Even more important, any new rules regulators put in place will not stop the next crisis, because it will have been designed to stop the previous one. The Sarbanes Oxley legislation, launched first in the United States in 2002 and replicated in different forms around the world, was designed to stop firms from hiding losses in off-balance sheet entities and misrepresenting sums on balance sheets and income statements. But that was yesterday’s mess. Sarbanes Oxley didn’t even slow down the torrent of disaster in the 2008-9 economic recession.

Hence, enlightened corporate egoism, and enlightened cooperative corporate egoism, constitute common denominators for prudent crisis avoidance and global humanization. When UN Secretary-General Kofi Annan in an address to The World Economic Forum on January 31, 1999, called upon global corporations to unite in affirming the principles of the UN Global Compact, he appealed not only to their moral idealism. He appealed also to their enlightened egoism. What is striking is the similarity in his 1999 appeal and the one made almost a decade later by then US Treasury Secretary, Henry Paulson. Paulson gathered the heads of Wall Street firms together in the Federal Reserve Building in Manhattan in the fall of 2008 in the midst of the crisis to push them to craft a collective solution to the Lehman Brothers meltdown. Both appealed to corporations’ stake in a collective future. Both utilized the same powerful underlying concept: namely, that companies have a stake that links their self-interest to the health of society. Both had the right idea.

Notes
1. In ‘De-Compacting the Global Compact’ I argued for three necessary steps corporations must take to satisfy all conditions of the UN Global Compact: 1. ‘egoism’, 2. ‘cooperative egoism’, and 3. ‘citizenship’. The first two of these have special relevance for the 2008-9 financial crisis, and hence constitute the focus of this article.

References
What if we are failing?
Towards a post-crisis Compact for systemic change

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Good people are good because they've come to wisdom through failure.
William Saroyan (1908 – 1981)

Has the UN Global Compact (UNGC) failed?
This question deserves as much attention as the search for evidence of success, if we are to be rigorous in our evaluation. Success or failure depends on what one seeks to achieve. There are multiple aims for the UN, its member organisations, the corporate participants, and the individuals involved, but the stated objectives of the UNGC are:

1. Mainstream the UNGC principles in business activities around the world
2. Catalyze actions in support of broader UN goals, including the Millennium Development Goals (MDGs).1

The UNGC has become the largest and most international of voluntary responsible business and finance initiatives, with over 5000 members. It is normal for people involved in innovative and well-intentioned activities to gather information to demonstrate the worth of what is being done and recruit more people to the cause. Yet growth should not be confused with success. And growth brings with it the need for more critical introspection. In this essay I argue that experience of the Western financial crisis makes it even more imperative that economic governance issues, hitherto peripheral to the focus of the Compact, must now become central to its future.

Considering the first goal, we remain far from the Compact's principles on the environment, labour, rights and corruption becoming mainstream in the operations of any business sector, in any nation. Global indicators on the state of the environment, labour practices, human rights and corruption are heading in the wrong direction. Statistics about increasing carbon emissions, rates of deforestation, and forced labour, for instance, are also statistics about the effects of irresponsible or unsustainable enterprises.2

Considering the second goal of the Compact, it is sad to note that poverty still persists. Apart from a few successes, including Rwanda, Mozambique and Bangladesh, progress towards the Millennium Development Goals (MDGs) is slow, or even in the wrong direction.3 At the current rate, sub-Saharan Africa will probably not meet the sanitation portion of the MDGs until 2105.4 Beyond the MDGs, the role of UN in other world affairs has been shaken in the past decade. On security issues, controversy surrounded the invasion and occupation of Iraq. On economic issues, the UN continued to be sidelined, as the Group of 8 powerful nations has been augmented by a Group of 20 powerful nations in the shaping of global economic policy. These governments act in the interests of some, if not all, of their companies—so it appears the private sector is not effectively demanding their governments prioritise the UN system for addressing global economic issues.

This downbeat summary reminds us that the overarching objectives of the UN Global Compact, to mainstream the principles and galvanize business to support UN goals, currently appear unmet. Clearly these are aspirational goals, and it would be impossible to reach them in one decade alone. If we consider them unachievable, we could recall Sir Winston Churchill's comment that ‘success is the ability to go from one failure to another with no loss of enthusiasm’. Yet let us for a moment believe these goals are indeed achievable. For if we do that we can assess how current activities are likely to achieve those goals, or what else could...
What if we are failing?

Compact has done good work on anti-creating partnerships. Nevertheless, the attention focused on recruiting members and issues have been avoided in the first decade, as it is understandable that some of the difficult goals. It is key to achieving systemic change in more broadly about economic governance.

In essence, I was arguing that ‘learning to talk about accountability, and even help its members to mechanisms for mandatory corporate financing, rebel and civil war financing, third lobbying, monopolistic practice, electoral financing, and evasion, corruption, corporate influence or conduct financial speculation, tax management and tax administration, and even help its members to contribute to an enhanced accountability regime. In essence, I was arguing that ‘learning to talk more broadly’ about economic governance issues is key to achieving systemic change in markets in line with the Compact’s two main goals.

It is understandable that some of the difficult issues have been avoided in the first decade, as attention focused on recruiting members and creating partnerships. Nevertheless, the Compact has done good work on anti-corruption, incorporating a new principle, and on cutting the financing of rebels and civil war. It has also supported the creation of the UN Principles for Responsible Investment, which address some investment issues, although not directly the issues with derivatives and speculation. It has also encouraged corporate lobbying for effective action from governments on climate change. These are not yet part of a comprehensive strategic approach to responsible business influence on economic governance, which now appears even more imperative after a financial crisis.

The Western financial crisis is a dramatic example of where people can seek to learn from failure. Five important lessons are relevant to the future of the compact. First, the financial crisis shows how devastating systemically irresponsible business practices can be to whole economies. Second, it illustrates once again the risks to the public of regulatory capture by certain business interests. Third, the crisis has revealed how there is no effective and accountable global public policy system for finance, with decisions in the hands of a few technical experts in central banks. Fourth, it highlights how voluntary responsible business initiatives have not effectively tackled the economic and political dimensions of responsible business practice, having been somewhat of a sideshow to economic governance. Fifth, it highlights the inherent volatility of economic systems based on interest-bearing money creation through private banks.

Each of these areas has implications for corporate responsibility, and can therefore be part of the agenda of the Global Compact. It can begin a process of different parts of society to address economic governance issues, and how responsible business can be a part of a transformation to more fair and sustainable forms of economic governance. Yet if the Compact is to work on economic governance issues effectively, another lesson should be learned from the crisis—the role of power in shaping our views. For years criticisms of the financialisation of the economy were being made from many different quarters, including the corporate responsibility community. Yet these views, and the people who articulated them, did not have access to powerful initiatives like the Compact. This may have contributed to the growth of a community of critics. Principled leadership does not simply involve bringing people together, but also requires pushing in one direction even though it will cause some powerful people and organisations to push back against you.

The paradox we face today is that business executives are needed to become more involved in policy processes, yet at the same time, this generates new problems about conflict of interest. We urgently need clarity about the potential progressive role of business in policy negotiations about climate change, for instance. The Climate Savers initiative of the Compact is helping demonstrate to governments that many businesses want to see action. However, this will
also legitimise further corporate involvement. To what effect? Unfortunately some business executives involved in the policy processes are paid by companies who seek sectoral allocations of carbon, so that they would have cheaper carbon than other types of companies. Such a policy would not help reduce carbon emissions. The emphasis on cap and trade, rather than carbon taxes levied on energy producers is also one that presents more opportunities to the finance industry, among other business interests. Given the criticality of getting climate policies right, the way companies can be effective participants in economic governance policy processes is more key than ever.

So has the UN Global Compact failed? It has failed to meet its specific objectives at this stage, yet its conveners and participants have succeeded in globalising the conversation about how business can play a positive role in society. It’s now time to shift that conversation to how we can create more systemic change. Key areas for future attention include:

- Generating more accountable and sustainable economic governance.
- Harnessing business to communicate about global challenges and the need for responsible business and finance.
- Developing insight into methods for creating systemic change for fair and sustainable economies.
- Cultivating the character of executive statespersons to participate in global change processes in personally accountable ways.
- Enabling the effective mobilisation of diverse constituencies on these work areas by continuing to make the Compact more open and accountable.

The Global Compact often been described as a learning initiative. The importance of learning from mistakes was emphasised by George Kell after the appointment of Mr. Chey Tae-Won to the board:

“The fact that Mr. Chey and the SK Group had demonstrated much willingness to learn from past transgressions was a key factor in the decision-making process. By all accounts, the SK Group, under Mr. Chey’s leadership, has emerged as a frontrunner in corporate governance in Korea. To the Global Compact, this is highly relevant and a sign of positive change in the spirit of the Global Compact principles. It also reinforces the notion of continuous performance improvement.”

The staff of the UN Global Compact have succeeded in creating a historic initiative with global reach. For it to have a positive future, let us assess its progress in light of the scale of the global challenges. Let us learn from the failure of economic governance. Let us learn from allowing ourselves to consider for a moment that the Compact has failed. Let us learn from the possibility that we ourselves are failing to see uncomfortable realities due to our own careers and self-esteem. Because to learn about transforming our societies we must first be open to the idea that we might be failing ourselves.

Unless we learn to fail, we fail to learn. Ultimately, ‘the only real failure in life is not to be true to the best one knows.”

Notes

1. All details of the UN Global Compact for this chapter were taken from http://www.unglobalcompact.org, accessed June 1, 2009.


7. For a review of some of the criticisms of the Compact visit http://globalcompactcritics.blogspot.com


9. A more detailed discussion of the elements of this


11. Hindu Prince Gautama Siddharta, the founder of Buddhism, 563-483 B.C.
The crisis that surfaced in 2008 had its origins many decades earlier. Its causes are complex and profound. ‘Recovery’ will not come simply from tinkering with financial regulations or through exhortations to leaders of Capital to behave themselves.

George Soros said, ‘the salient feature of the current financial crisis is that it was not caused by some external shock… the crisis was created by the system itself.’ Real, sustainable recovery requires looking at the system. The ‘financialisation’ of the economy—with all of the distortions that it brought—must be scrutinised and remedied. But, such questions need to be placed in the context of what, politically and ideologically, made it possible, even inevitable, that such distortions would occur.

It is completely understandable that there is public outrage at the fact that many of those who created the crisis escaped with golden parachutes while workers lost their jobs and/or were saddled with the huge debt incurred to save the banks. What is shocking is that some were not shocked. But, recovery cannot be about replacing the ‘bad guys’ even if a few of them go to prison, with ‘good guys’ or about the ‘moralisation’ of capitalism. Greed will always be with us, but it must be contained. It can no longer be unfettered or be encouraged. It must be not allowed to propel policy decisions that shape the world.

The successive and ongoing crises; energy, food, environmental, financial, and economic, grew out of 30 years of mistaken and irresponsible policies that contracted out protection of the ‘public good’ to private parties. Globalisation on ‘autopilot’ has proven that it cannot work.

The global community should rethink governance and the role of government as well as the relationship between special interests and the public good. If the crisis results in a re-assertion of values of decency and democratic control, it will be an opportunity in spite of the sacrifice. As Franklin D. Roosevelt said in his first inaugural address in 1933, ‘These dark days will be worth all they cost us if they teach us that our true destiny is not to be ministered unto but to minister to ourselves and to our fellow men.’

Sustainable Development

The concept of sustainable development is a sensible framework for looking at the system. It represents a fundamental shift in analysis from the ‘Washington Consensus’. The idea of examining economic, social, and environmental issues together as three, interdependent pillars of development was a sharp break with the idea that the market was king and that everything else should respond and adapt to it. The ambulances were to be dispatched to retrieve the bodies of the market’s victims from the economic battlefield. And the public was to be responsible for cleaning up the environment, preferably in a way that would generate profits for entrepreneurs.

The crisis showed that the concept of sustainability, by itself, has failed to put the market ‘in its place’. Some important changes have occurred, particularly in public attitudes, in large part due to the fear of global warming and the resentment of injustice, but those changes have not yet significantly altered the way that we work or co-operate.
The market is an important way to organise the economy. But, it is a mechanism, not a religion. Debate on sustainable development is impossible if it must be based on absolute ‘faith’ in the market.

And, the market and its actors cannot be expected to replace governance or governments. The market has no face and no name. It can neither be elected nor removed from office. Only elected governments have the legitimacy and the mandate to take public decisions.

Sustainable development is long term. One of the reasons that the economy came unraveled is that it became short term. The imposition of requirements for high, rapid returns often left a company without the resources needed to advance and, sometimes, to survive. Leveraged buy-outs have killed companies and cost jobs. They are one of the reasons that the economy was so vulnerable. In recent years, there was much debate as to whether leverage was good or bad for companies and the economy. That debate seems to have come to a grinding halt. Unsustainable, private debt cannot be the model for development. Nor can such colossal failures be shifted without limit onto taxpayers. For decades, private debt has been at risky levels and the bill has come due.

Social sustainable development is social justice. Inequality has grown steadily over decades, as documented by both the ILO and the OECD. It has created a social structure that is ‘top-heavy’ and that is neither fair nor stable. In recent decades, rather than improving social protections and respect for fundamental rights, risk has been shifted from companies to their workers. The explosion of precarious work, often temporary and/or with blurred or ignored employment relationships, is just one dramatic example of short-termism in the social area. The creation of good, stable, and sustainable jobs should be an integral part of sustainable strategies to overcome the crisis. If not, it will be a ‘recovery’ for the few rather than for the many. And, rights are an important part of sustainability. No worker should, at the same time, lose his or her job and lose any hope for union representation and collective bargaining.

The global warming that threatens the planet and the exposure to hazardous substances and other risks that threaten workers and the general public has also developed over many years. It is clear that urgent corrective measures must begin to be taken, but that their impact will only be felt after many more decades have passed.

The world’s economic, social, and environmental problems have long-term causes and have suffered in all three cases from short-termism. Global, sustainable solutions must be long term. Processes are necessary to stimulate democratic solutions, to improve the observance of rule of law and the quality of governance, to re-build public services, and to generate the sustainable dialogue on which progress is dependent.

The Global Compact and sustainable dialogue

The 10th anniversary of the UN Global Compact must not be an exercise in complacency and self-congratulation. In fact, it should not be seen as a celebration at all, but rather as an occasion to reaffirm its principles, reexamine its mission, and its role and potential to contribute to sustainable development.

The universal principles of the Global Compact, enshrined in the UN and its specialised agencies, are legitimate and, by uniting human rights with labour and environmental principles, have, from the beginning, been intended to advance sustainable development. They bring the principles together with major actors in the global economy and global society.

The Global Compact principles are not only linked with each other, but they are fundamental to rule of law and governance. Commitment to and active support of them, if it is to mean anything, should contribute to better rule of law and good governance at global and national levels.

The Global Compact, of course, involves business. But, it also provides for the participation of representative trade unions, part of both the private sector and civil society. And, it engages other groups that are interested and active in human rights and environmental issues. Dialogue was intended to drive the Compact. The kind of dialogue needed for sustainable development will not happen through corporate responsibility regardless of how many reports are written or how many ‘stakeholder dialogues’ are generated. In fact, it will never take place on a purely enterprise-by-enterprise basis. There must be joint and collective action.

Already, significant global dialogues are taking place. Governments are discussing economic, social, and environmental policies and co-operation as never before. Global social dialogue is exploding, with global companies and global unions finding ways to work together and solve problems that arise inside companies and their supply/production/service chains. Growing numbers of firms (from a handful some years
ago to around 80 at this writing) are signing
global agreements. There is the 2008
Declaration on Social Justice and Fair
Globalisation of the ILO that helps define
sustainable development's social pillar. The
‘Protect, Respect, Remedy’ framework on
business and human rights put forward by UN
Special Representative John Ruggie is generating
debate that crosses many boundaries. There are
the OECD Guidelines covering social and
environmental concerns as well as corruption
and other issues. There are a series of initiatives
on the environment that engage civil society as
well as governments.

The Global Compact should complement and
encourage such initiatives. It can help to create a
climate for and facilitate dialogue, but only if it
understands its nature and encourages its
practice.

It is necessary, for example, to accept the
existence of other dialogue parties and to
understand their respective competencies and
contexts. One should not be amazed, for
example, if industrial relations are often
‘confrontational’, rather than co-operative, in
countries where companies routinely contest the
right of workers to form unions. There should
also be respect for all legitimate parties to
dialogue combined with understanding of
whether they are representative, provide
expertise or services or some combination of the
three.

Dialogue should be linked to objectives and
should lead to results. It will not engage the real
players if it is dialogue for the sake of dialogue.
That also means that it needs to be linked with
legitimate governments and strengthen
democratic control and accountability.

Dialogue should not be confined to that which
is ‘voluntary.’ Global markets need global rules.
And, if those rules are to work, they should be
developed through dialogue. Much of the
discussion of voluntary, agreed or binding
measures is ideological rather than logical. All
are needed and they are interdependent. There
must be a wide variety and combination of
private-private (including industrial relations),
private-public, and public-public initiatives.

Sustainable development, by crossing so many
substantive boundaries, also crosses
organisational frontiers. Some organisations do
not yet know how to talk with others.
Developing trust often requires time and
experience. Some parties, including many
companies, have a hard time acting collectively.
Sustainable development will not be achieved
using an atomised or compartmentalised
approach. And, many issues related to all three
pillars are industrial in nature, but there are very
few sectoral collective counterparts to Global
Union Federations.

Achieving sustainable development requires an
unprecedented level, intensity, and quality of
global, regional and national dialogue. It also
requires building and strengthening institutions
in order to engage in sustainable dialogue that
can make a difference. All of this is a challenge
for private as well as public parties. Private
parties as well as governments need to have
more long-term perspectives—whether that
means going beyond the next quarterly report or
beyond the next election. Consensus will not
come overnight, but without progress in that
direction, all of us will lose.

The Global Compact contains all of the
ingredients to make a difference in today’s world
just as it did a decade ago. If it can ‘seize the
moment’ and combine its principles, mission,
links and dialogue function, it will help build the
Prosperous, Fair, and Green world that we all
seek.

Jim Baker is the Co-ordinator of the Council of Global
Unions (CGU). The CGU groups Global Union
Federations (GUFs), which represent national trade unions
by sector and occupation, together with the International
Trade Union Confederation (ITUC) and the Trade Union
Advisory Committee to the OECD (TUAC), which
represent national trade union centres (multi-sectoral).
I want to give a brief response to those critiques that I think are missing the idea of the Global Compact. This is not to say that the Compact is without problems. Even, and maybe especially, new ideas like the Global Compact need to be critically evaluated in order to improve their organizational structure and operating procedures. However, I hope for more constructive assessments that consider the underlying philosophy of the Compact and its institutional environment. All of this is not to say that there are no ‘bad apples’ among participants, but that we should not criticize the Compact for something it never pretended and/or intended to be.

Often, we hear complaints about the vagueness and non-specific nature of the ten principles. I want to offer an analogy to show why the principles are necessarily broad. Think of the ten principles as being ‘empty’ and think of dialogue, learning and implementation as fostering reflections which ‘fill’ the principles with contextualized meaning. In other words, universal principles—which have to be valid in each country, each industry and need to apply to SMEs as well as MNCs—have to preserve a necessary ‘emptiness’. This interpretative flexibility is advantageous insofar as solutions can be embedded in local contexts, a task which Global Compact Local Networks are continuously working on. In addition, the process of ‘filling’ the principles should create process and product innovations which can be shared with other participants. Considering this, the Compact is a necessary complement (not substitute!) to more regulatory approaches towards corporate responsibility.

There are also concerns that the Global Compact opens the door to the privatization of the UN. The fear is that ‘big business’ captures the UN agenda. The Compact reflects an ideological change within the UN system towards collaboration with private business actors, a change which can be best described as moving from confrontation to cooperation. This change, however, is not about ‘capture’ since many of today’s global governance voids cannot be filled without the expertise, reach and resources of corporations. There already is overlap between the UN agenda and business interests; both want and need stable markets and functioning institutions. The Global Compact is also by no means the first, nor the only attempt to establish partnerships between the UN and the business world. Almost from its inception, the UN has had partnerships with businesses and business associations (for the history of UN-business engagement see Sagafi-Nejad 2008).

Critiques have argued that the Compact reflects a ‘weak’ solution because it does not monitor compliance. In the eyes of these critics, the Compact is a public relations smoke screen without substance that allows powerful MNCs to ‘bluelash’ their damaged image (i.e. to gain legitimacy by being related to the blue UN logo). While the accountability of the Compact can surely be improved, as has been done through the introduction of the mandatory Communication on Progress (COP) policy and the delisting of non-communicating participants, to require monitoring and certification misses the underlying idea of the initiative. The Compact was set up as a multi-stakeholder learning network based on dialogue and
partnership between business, civil society and the UN system. The initiative is by no means a ‘seal of approval' for participating companies. Even certification standards like SA 8000 are only certifying single production facilities but never entire corporations. In a world of dispersed value chains, where the boundaries of corporations are becoming increasingly blurred, approval can at best be tied to single factories. This, however, is not the aim of the Global Compact.

Where do we go from here? How will the idea of a global pact between business, civil society and the UN be shaped within the next ten years? Of course, I do not have perfect and comprehensive answers to these questions. Nevertheless, I would like to offer some thoughts on currently existing challenges which have to be addressed.

Most of all, the Compact has to cope with a paradox. On the one hand, it needs further growth as otherwise all efforts to work towards a more sustainable business environment will remain a drop in the ocean. Although the participation by more than 5,000 businesses makes the Compact the largest initiative of its kind, the vast majority of companies around the world have not signed up yet. On the other hand, growth, and especially fast growth, exposes the initiative to a variety of organizational challenges. So far, the Compact has greatly profited from its rather non-bureaucratic style of management and the hard and visionary work of a small group of people. Further sustained growth would not only require more resources but would also entail a different way of organizing and managing the Compact itself. The challenge, then, is to satisfactorily balance the indispensable quantitative growth with participants' qualitative engagement in the initiative.

Another key challenge is the more active involvement of governments which have to create a legal environment for corporate responsibility to not entirely rest on voluntary actions. Governments need to actively acknowledge and back the Compact by issuing regulations which help to translate the ten principles into practice (e.g. the recent move of the Danish government to require non-financial reporting is an important first step). To believe that corporate responsibility should remain entirely voluntary is too naïve. The Global Compact has broadened our understanding of how social and environmental issues affect corporations and how they can be managed. Using this knowledge to work on improved legislation throughout the world is a necessary next step to achieve the ambitious goals the Compact has been working on over the last ten years.

The Global Compact is an essential idea which has helped to put corporate responsibility on the agenda of many companies. I am positive that when the history of corporate responsibility will be written one day, the Global Compact will find its rightful place: as an idea whose time had come.

References
What lessons does the past have for future predictions of climate change?

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Non-linearity is an important characteristic of all global environmental systems. It occurs at a range of temporal and spatial scales and controls the climate, and human responses to it. Implicit in such non-linear systems are the existence of multiple equilibria and thresholds (so-called tipping points); these force the system to exhibit rapid and unpredictable change. The interactions between the non-linear atmosphere, hydrosphere, biosphere and geosphere, and society are complex and form one of the main sources of uncertainty in our predictions of future climate and environmental change. It is clear that such uncertainty is of intense interest to human society as rapid change would impose a very severe burden on the stability of cultural, economic and political (as well as ecological) systems. There are plausible system thresholds that could overwhelm the capabilities of humanity to respond. However, policymakers are only partly aware of the nature of threshold responses in the climate, the non-linear feedbacks that these create and the probabilities of rapid change.

However, we can use the past to shed light on the stability of the climate system. Reconstruction of past climate change has identified a number of threshold responses of Earth Systems where climate changed rapidly in response to internal and external forcings. There is also compelling evidence that the climate system in the past (and perhaps in the present) displays emergent behaviour and, it is hypothesized, Global Climate Models (GCMs) are not always able to mimic such behaviour. Emergence is a characteristic of dynamic systems where the large-scale behaviour of the system is effectively independent of the behaviour of the small-scale components of that system. Scientific attempts to unravel the complexity of multivariate systems have tended to follow reductionist paths and the use of GCMs is a typical example of this. However, the presence of emergence in the climate system means that reductionism may not be a valid response to complexity in natural systems.

Two questions follow from this. First, does this mean that our GCMs are unable to account for the likely future dynamic evolution of the climate system since the system is likely to display emergence? Second, is their inability to mimic the rapid climate shifts in the past (and some broad scale elements of the present climate system) mean that they are not preparing us for threshold responses?

Clearly, these questions have important policy implications as climate change can be both rapid and unpredictable. We know that climate change in the past has happened very rapidly; we therefore know that such changes are possible in the future. Highlighting the uncertainties in our climate projections is crucial if we are to prepare society for the climate changes and associated conflict, societal and ecological upheaval to come. (For a fuller discussion of these issues see Harrison 2007; Harrison and Stainforth 2009).

Climate Change

There is a scientific consensus (Oreskes 2004.) that the mean surface temperature of the Earth has warmed in recent decades, and that the warming amounts to around 0.8 °C since the beginning of the 20th century (IPCC 2007). From this, GISS estimate that 2005 was the warmest year since reliable instrumental
measurements become available, although the WMO and CRU place it just behind 1998. The amount and rate of warming are outside of the range of natural variation and unprecedented for the Holocene (the last 11,000 years). Detection and attribution studies show that there is high probability (at least 90%) that this warming is largely the result of anthropogenic emissions of greenhouse gases (mainly CO$_2$) in the troposphere and that. Continued warming is expected to have important consequences for a range of Earth systems (including the atmosphere, cryosphere, oceans, hydrological systems and the biosphere) and there are compelling reasons to expect increases in the magnitude and frequency of some natural hazards such as floods (Huntington 2006), droughts (Mason and Goddard 2001) and landslides (eg Fischer et al. 2006), and increases in the intensity of tropical cyclones (Emanuel 2005). There are also concerns about the stability of several of the large ice sheets on Earth (e.g. Overpeck et al. 2006) as these have the ability to impact upon global sea levels and regulate ocean currents.

The pattern and extent of future warming has enormously important policy implications for governments and business. The only way in which such predictions can be made is through the use of General Circulation Models (GCMs).

Predictions of future climate change

Climate models have developed enormously from the simple energy balance models of the 1960s and are used to make predictions and projections of future climate change. For understanding climate change, GCMs were developed to include atmospheric and oceanic processes and the influence of land-use change, vegetation and ice sheets and these models have been further extended to form Atmosphere Ocean General Circulation Models (AOGCM) and Earth System Models. These contain sub-models within them to describe the operation of carbon fluxes and other processes. In certain ways, climate change is a more difficult problem than weather forecasting as verification and development of the models from real-world observation is restricted by the long timeframe over which the models are forecasting. In addition, the complex nature of the global climate system means that even the most sophisticated GCMs are unable to always model successfully important elements of the climate including the location of certain storm tracks, regional responses and ice-sheet dynamics. These limitations are not always considered by policy makers.

Problems with GCMs

Researchers have identified a number of sources of uncertainty in modeling attempts to explore future climate change (Collins 2002, Stainforth et al. 2007) and these can be sub-divided into two major categories: theoretical limitations and practical limitations in model predictability. They can be further broken down into those problems associated with the uncertainties associated with the physical processes that drive the global climate and these include initial condition uncertainty, model uncertainty and model inadequacy, and the uncertainties inherent in attempting to predict the likely trends in the main drivers of present and future climate (greenhouse gas emissions and the changing nature of sinks and sources).

The former uncertainties include poor scientific understanding of the operation of processes that occur at small spatial scales. These processes are parameterized and include land-use change, hydrological and albedo variables and processes such as those forming clouds. Over the last couple of years, there has been greater recognition of the nature and policy implications that follow from these uncertainties and limitations, and these issues have been explored in a number of papers (e.g. Stainforth et al. 2007).

GCM projections are generally robust for global temperature in that they mostly agree that Northern Hemisphere land masses will warm more than the global average, that the Southern Hemisphere oceans will warm least and that the Arctic will undergo rapid and enhanced warming (this is called polar amplification). The uncertainties that do exist are magnified at the regional scale to the extent that different models will produce different regional climates, even when forced by identical emissions scenarios. This is partly because of the operation of regional feedbacks and partly a consequence of model inadequacy. This is clearly a problem for policymakers who wish to have credible climate projections for specific locations. The problem is exacerbated by the poor ability of GCMs to resolve large-scale elements of the climate system, such as El Niño Southern Oscillation (ENSO). This is important because such characteristics of the climate system are those which play a central role in determining the nature, location, amount and timing of precipitation and therefore water availability.

In addition, future trends in precipitation are more uncertain than those for temperature since precipitation is affected by features such as the position of frontal zones and wind fields whose future behaviour is not easily modeled, and
projections from regional modeling show wide variance. As Douville et al (2006) recognises, uncertainties in precipitation change are, like precipitation itself, very unevenly distributed over the globe, the most vulnerable countries sometimes being those where the anticipated precipitation changes are the most uncertain. For example, projections for central and tropical South America range from increases in precipitation by 2020 of 5% to decreases of -5%. By 2050 projections are still more uncertain, ranging from around 10% increases and decreases. Such uncertainties are a feature of projections from GCMs and Magrin et al. (2007, 594) caution that ‘the current GCMs do not produce projections of changes in the hydrological cycle at regional scales with confidence. In particular the uncertainty of projections of precipitation remain high.’

**Lessons from palaeoclimatology**

Given the range of uncertainties outlined above in the predictions and projections of future climate change from the outputs of GCMs, what opportunities are left to us to obtain information about future change? An important philosophical lesson from geology is that of uniformitarianism: which states that the key to the past lies in the present (Hutton 1795). We can overturn this doctrine and state that as far as the climate system is involved, a crucial philosophical viewpoint must be that the key to the present (and future) lies in the past. Consequently, understanding how past climates have changed in response to various forcings and the response of other systems may give us insight into future climate change. Unfortunately, the pattern that emerges does not give us grounds for optimism.

From palaeoclimatic reconstructions, it is clear that climate change during the Lateglacial period (between 18,000 and 10,000 years ago) in the period leading up to the Holocene was rapid and significant (Alley et al. 2003). The largest shift in temperature at this time occurred during the Younger Dryas stadial between 11,600 to 12,900 years ago; the start of which was recorded by a reduction in Greenland temperatures of around 8°C (Alley et al. 1993). At the end of the Younger Dryas temperatures rose as sharply, with most of the temperature change occurring over a decade or less.

The period following the melting of the continental-scale ice sheets of North America and Northern Europe is known as the Holocene. Until quite recently, the Holocene was seen as a time of relatively stable climate, which allowed complex civilizations to develop. However, since the mid-1990s a number of reconstructions of late Holocene climate have shown that the climate varied considerably regionally at decadal and centennial timescales (e.g. Mann and Jones 2003; Moberg et al. 2005). Such regional variations had profound implications for human society, and climate change is implicated in the collapse of civilizations such as the Mayan and Akkadian empires. From this we can argue that the main lesson we can learn from the past is climate change can be very rapid, especially at the regional scale. When used to model past climates our GCMs do not recreate these rapid climate shifts and this should be seen as a considerable and dangerous failing. It also appears to be the case that the climate can be regionally and globally liable to rapid shifts when the forcings have increased rapidly; the implications of this are that recent rapid atmospheric forcing by greenhouse gas emissions makes rapid climate change more likely, and this will be abrupt on the timescale of human economic, cultural and political systems and global ecosystems (NAS 2002).

Many instances in the past of rapid climate change have probably been the result of interactions between ice sheets and oceans during deglaciation and under conditions of positive climate forcing, conditions which are beginning to operate today. This is not well understood, and modeling ice sheet dynamics is a significant failing in ice sheet models and in GCMs.

The study of past climate may be critical in identifying emergent phenomena as well as important in guiding speculation on the domains of applicability of climate models and the assessment of future risks. While the Holocene has so far been a period of relative climatic stability (at least at large scales) there has been no change in climatic forcing comparable to the doubling of atmospheric CO₂ concentrations over pre-industrial levels which we are likely to see by the middle of this century. Ice core records reveal that atmospheric CO₂ concentrations are now higher than for at least the last 650 ka (IPCC AR4); human influence on the global climate is profound. That there are severe risks in the future is clear. Their details and character are not.

The oceanographer Wally Broecker criticized the limitations of climate models to recreate some aspects of past climates. He wrote (1999): ‘No one understands what is required to cool Greenland by 16 °C and the tropics by 4 ± 1 °C, to lower mountain snowlines by 900 m, to create an ice sheet covering much of North America, to reduce the atmosphere’s CO₂ content by
30%, or to raise the dust rain in many parts of Earth by an order of magnitude. If these changes were not documented in the climate record, they would never enter the minds of the climate dynamics community. Are these examples of emergent phenomena, consequences of drivers which we may wish to consider external to the climate system such as meteorite, solar or volcanic activity, or behaviour which we have simply not yet seen in our climate models.

Conclusions
The perturbation we are imposing on the global climate system is significantly larger than any plausible natural variability. Predicting the likely response of this, beyond saying that climate sensitivity to doubling CO2 concentrations is likely to be around 3°C (IPCC AR4) is difficult. As Rial et al 2004 caution: ‘since the climate system is complex, occasionally chaotic, dominated by abrupt changes and driven by competing feedbacks with largely unknown thresholds, climate prediction is difficult, if not impracticable.’

It seems likely that the models will underestimate rather than overestimate the climate sensitivity over the long run, because they omit relevant variables. It is also likely that the regional response to GHG forcing will be beyond the current capability of GCMs and Regional Climate Models (RCMs) to resolve. This makes more urgent the move to a sustainable global economy and society.

Acknowledgements
This paper has partly evolved from discussions with my climate science colleagues; especially Drs. Dave Stainforth and Ed Anderson. A longer treatment of these ideas may be found in Harrison (2007) and Harrison and Stainforth (2009).

References
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Edinburgh.
The 20th century was a century of incredible organization creation. The 21st century is a century of innovating with networks and global systems. We are still in early stages of understanding the network world, but the outlines are becoming clearer as a fourth stage of complex network development unfolds. The Global Compact is now playing with this fourth stage.

Over the 20th century the rise of the welfare state required development of governmental organizations of a scale and capacity previously unknown. As well that period saw substantial experiments in permanent intergovernmental organizations (IGOs—themselves networks of national governments) associated with international treaties and agreements grew into a dense number of IGOs, most notably the UN and World Bank groups.

At the beginning of the last century, civil society organizations were restricted to labor and professional organizations, religious ones, and political parties. The following 100 years saw a flowering of new citizens groups organizing around new concerns including international development, the environment and human rights. They grew from relatively local concerns, to global organizations and events like the World Social Forum.

And of course the analogy for business is the World Economic Forum whose members represent the complexity of for-profit global enterprise that grew out of the national enterprises that dominated a century earlier.

But by the end of the 20th century, the organizing challenges were not so much scale as ones about making these three pillars of government, civil society and business interact more productively for the good of the planet and its people. Somehow the purpose of organizations increasingly became the organization’ success, rather than the good of people and planet, and this shift was particularly true for businesses. The mid-20th century idea epitomized in the statement “what is good for America is good for GM” was bankrupt well before GM’s financial bankruptcy.

One response to this failure of organizations to collectively produce the good of people and planet is the rise of cross-sector (business-government-civil society) networks on a global scale, which I and my collaborator Sanjeev Khagram have called Global Action Networks (GANs). Although there were isolated examples earlier, this new network form is really a post-Cold War phenomenon. Ending the ideological freeze rooted in nation-state dominance was necessary for GANs’ to be able to emerge, however, even today there are only five or six dozen GANs in the world.

Of course, as with any innovation, intense experimentation and failures litter the GAN development path. They have passed through three organizational stages, and are now entering a fourth where they can achieve their real promise.

These development stages and the potential of the fourth stage are reflected in the development of the Global Compact. Stage 1—Initiation—arises as people working in individual organizations become aware of, and frustrated with, the limitations of their organization. Frustration with the UN and other
Intergovernmental Organizations (IGOs) is expressed on many fronts, such as with their slow pace, unimaginative bureaucratic style, lack of efficiency, political limits, and weakness in achieving on-the-ground results.

From another perspective, the expectations of such organizations are often unreasonable. IGOs’ core competency is around creating agreement among the world’s national governments and sub-sets of them. This is complicated and not always (or even often) possible. Moreover, there is often ‘mission creep’ when the IGOs are expected to actually implement agreements. Generally speaking they are not very good at doing this because implementation usually requires engagement of not just national governments, but other actors as well (other levels of government, business, civil society). Of course mission creep occurs also because the IGOs like to think of themselves as good at doing more than they can do, because of empire-building tendencies, and because of a natural tendency of governments to think of themselves as ‘being in charge’.

The founders of the Global Compact had a humbler perspective of the UN’s capacity. They were facing an increasing crisis of legitimacy, since the gap between what governments declared in their international agreements and how they acted was growing larger and increasingly obvious. This classic situation leads an organization to look for a new approach. Preceding the actual announcement of the Global Compact were various Stage 1 consultations with stakeholders to help think through the form of the solution.

Then comes the complicated Stage 2 work, with experiments about how to actually realize the goals of the stakeholders – in this case, giving life to various UN Conventions. There is intense work among a range of stakeholders, but the number meaningfully engaged remains relatively small. For the Global Compact, an increasingly pernicious problem at this stage was how to relate to civil society; various explorations led eventually to a sort of truce and even today no traditional activist NGOs are on the Compact’s Board.

In Stage 3, GANs expand participation substantially. For the Global Compact, this expansion occurred by stealth as much as by design: it was surprised by a 2005 consultant report that identified a large number of national-level nodes that were forming. This recognition led to formalization of the process for such networks’ formation and definition of their roles. And there was increasing strengthening of nodes organized around ‘industries’.

But now the Global Compact is really entering Stage 4. At this stage a GAN becomes a ‘web’ that can be likened to a ‘global membrane’. It shifts from a hub-and-spoke Stage 3 model with a ‘Secretariat’ hub, to a multi-node one where the Secretariat increasingly acts simply like another node in the network. This is particularly problematic for the Compact since it is heavily influenced by the IGO model that is, appropriately for the work, organized around a Secretariat model. However, that model is not appropriate for realizing a GANs’ true potential. Stage 4 requires massive decentralization and dispersion of ownership. The Global Compact is managing this process in part by maintaining the increasingly tenuous fiction of ‘UN control’ with an ‘advisory’ Board.

So one key Stage 4 characteristic is the absence of a central node of control, although there is usually a node to handle global issues. There is increasingly intense interaction between sub-global nodes—ones organized by industry and by thematic issue (human rights, labor, etc.) as well as by geography. Collectively these nodes support the emergence of the values and ‘logics’ that they represent, at a global level. Rather than through centralized ‘coordination’, the GAN does this by undertaking strategic interventions in the form of particular projects that create role models and pilots to exemplify new ways of working.

Also at this Stage, relationships with other GANs become increasingly important. Already at Stage 3 the Global Compact had formal relationships with at least two other GANs: Transparency International and the Global Reporting Initiative. New ones, such as the Principles for Responsible Investment (PRI) are being developed. All of these GANs work with a similar ethical base and logic about addressing critical issues through cross-sectoral, societal learning and change. As they grow and more enter Stage 4, their influence will become increasingly obvious as their values become part and parcel of the way the sectors work. The price of working outside of the GANs system of influence will become increasingly high—it will mean opportunities denied and challenges to legitimacy.

In the end, a world of GANs is one with a new form of global governance where organizations like the UN participate as members, rather than being in charge. The promise of a GAN-world is a healthier planet and happier people. Of course whether that can be really achieved still remains to be seen.
9

Shaking heaven and earth to survive

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In 2006 in *The Revenge of Gaia: Earth's Climate Crisis & The Fate of Humanity*, the British scientist James Lovelock describes a world set on a collision course with itself. At one level he sees the self-regulating marvel of the planetary climate system he calls Gaia. On the other, he chronicles more in sorrow than in anger how the human species has pushed this system to a point of no return. Earth and Gaia will survive says Lovelock, but it could well be at the cost of human civilization.

Now consider the state of business civilization. In the past few decades of free market, private enterprise expansion around the world, business civilization has reached a social and political pinnacle enabling it to shape global civilization itself. Supply chains have been globalized. Consumer tastes have been also, and consumption has risen in all but the most marginal of economies and communities. Technology has flowed freely across many borders and so has capital. Human wellbeing has been dramatically improved through the expansion of economic growth and jobs. For a time during the past generation business was riding so high that it seemed as if public discourse devolved inevitably to the single question of how to find the market solution to every public or private problem. As to government, its role was to get out of the way of the market and allow it to exercise its presumed ability to meet all needs all the time with a high level of economic efficiency.

But along came the financial crisis of the fall of 2008 in the United States. One of its results was to make that type of faith in market fundamentalism look terribly naive. The business civilization that had been built up around this faith got a rude reality check. The gap between market self-interest and general public interest was unearthed like a major archaeological find. Here was the proof that business civilization and human civilization did differ. Unlike Lovelock’s Gaia, the engines of corporate finance proved they were anything but self-regulating marvels. Individuals and business enterprises had acted optimally in their self-interest, accumulating untold volumes of risk along the way. But their optimal self-interest proved to be suboptimal to systemic interest. As with Gaia, the system as a whole had been wounded because no one in particular was looking out for the welfare of the system itself.

This financial crisis experience parallels what is going on in the broader ecological crisis as regards the role and expectations of business. The parallel is that there is a state of dissonance between the ecology of commerce and the ecology of Earth. A clash of civilizations between one civilization rooted in business performance for the here-and-now, notwithstanding any collateral effects or externalities, and another civilization seeking to be born as sustainable enterprise performing for the here-and-future. How to cure this dissonance is the question of our age. Can free market, private enterprise capitalism co-exist with and prosper in a mutually interdependent relationship with the ecology of Earth? How can the health of the Earth system be ensured by publicly interested actions taken by self-interested business and civilian actors? Is it possible for markets alone to cure what Sir Nicholas Stern famously termed the greatest market failure in history? Can business rise to the challenge of innovating remedies to this failure? How exactly do we organize and structure ways of thinking, processes of action, and habits of people to ensure that growth...
occurs but does not do so at the expense of the community as a whole, creating all those undesirable externalities?

For now, the definition of this challenge looks a lot clearer than the shape of any particular solution. Resolving this dilemma of the war of the parts against the whole is made difficult by two converging things. One is the magnitude of the tasks ahead and the other is the fact that just about all the systems and the structures now in place are basically all unit-based systems, not system-based systems.

For companies, there are particular challenges in moving away from current business models. These are largely built on a narrow base of accountability to shareholders and relative independence of action in the marketplace. Becoming sustainable for the long term will require a rethinking of these first principles and their substitution by others. From relative independence, companies will need to become more efficient and effective in dealing with multiple actors in an interdependent manner. This will mean more than simply running an excellent supply chain. It will also mean more work designed to be performed for systemic impact by networks and not merely units of private enterprise, public sector and civil society actor members. From a first principle of generating benefits for shareowners alone, companies intent upon making an ecological difference will need to have the making of this difference be their guiding first principle going forward. From living with externalities that are absorbed by society at large—continuing the phenomenon of the privatization of gain and the socialization of risk exemplified in the financial crisis—companies will need to learn to live with externalities that will become expenses fully reflected in their bottom lines.

The transition to sustainable enterprise models will be a difficult birth of a civilization seeking to reverse the suggestion by Lovelock that Gaia may survive but we may not. With a challenge of that magnitude, how can we do any less than to shake heaven and earth to prove Lovelock wrong?

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The Phoenix Economy
The sustainable enterprise economy is taking root in the best of times, the worst of times

John Elkington 
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Evolving, stress-testing and rolling out new paradigms is one of the toughest, least understood challenges we face as a species—and to date has largely happened as a result of trial and error. In a series of three books, we have argued that it’s now much too important a task to leave to accident.

2009 saw the world at one of those infrequent tipping points that can powerfully shape—even flip—prevailing scientific, economic and political paradigms. Similar periods also occurred, for example, in 1919, 1929, 1939 and 1989. The current economic discontinuity is forcing a profound reassessment of economic, business and governance models. Our initial assessment of the challenges is outlined in The Phoenix Economy—suggesting that a key test is likely to be our ability to transcend our current, unsustainable paradigm and evolve a new one.

Our argument builds on the fact that 20th-century capitalism was driven by alternating ‘Bull’ and ‘Bear’ markets, with the 21st-century’s first decade seeing the collapse of the greatest bull market in history. We now see early signs of a very different oscillation, between ‘Dragon’ and ‘Phoenix’ mindsets—as the credit crunch is followed by energy and climate crunches.

To date, Dragon economies—think China—have focused, at best, on a double bottom line of economic growth and the maintenance of sufficient social cohesion to keep the national locomotive on the rails. In hard times, Dragon mindsets are likely to default to economic nationalism. The Phoenix Economy, by contrast, blurs across national borders, working to integrate the triple bottom line of economic, social and environmental value added into its market DNA—a ‘triple helix’ of change.

Our core hypothesis: Paradigm shifts happen because of the breakthrough ideas and efforts of extraordinary, ‘unreasonable’ individuals. Today’s most important agents of longer term transformative change are likely to be found at the edges of the current system. Experimenting with new mindsets, new definitions of value and new business models, these pioneers tackle market failures, whether in relation to human rights, water scarcity, biodiversity loss, or ‘one planet metrics’, and are pilot-testing key components of tomorrow’s economy.

By way of background, Figure 1 illustrates the backdrop to our thinking. The diagram was produced in 2004, drawing on our work since 1994 analyzing the underlying dynamics of sustainability-related pressures on governments, business and financial markets. If Wave 1 in Figure 1 (peak 1969-73) focused on public policy and regulation and Wave 2 (peak 1988-91) on market dynamics, including the formulation of new management standards, Wave 3 focused on globalization and two forms of governance, global and corporate. The events of 2001 put these dynamics into reverse for a number of years, but Wave 4 is now building around the world, despite—and in some cases because of—the economic discontinuity.

Our sense that all of this activity is driving towards a new global paradigm. We do not have a recipe for shifting paradigms, but believe that a new one has been evolving since the early 1960s. Indeed, one reason why we founded Volans early in 2008 was that we had a growing sense that corporate citizenship and CSR models
of change, while necessary and nice to have, were time-expired—and very unlikely to drive the shift to a sustainability-focused paradigm.

Instead, such change will likely come from higher risk, more speculative initiatives, whose outcomes are less certain—and where the metrics of progress are still in formation, if they exist at all. The iteration of our waves diagram shown in Figure 1 plots three scenarios: ‘Breakdown’, ‘Distraction’ and ‘Rising Tide’. Elements of all three are playing out today, with the economic crisis distracting public, private and citizen sector leaders alike, but with elements of the rising tide continuing to work through, as in areas like clean technology.

In The Phoenix Economy, we present an action agenda for social innovation, based on a ‘Manifesto’ for political leaders, a ‘Prospectus’ for business leaders and a ‘Syllabus’ for business educators. We also identified a ‘Phoenix 50’ of powerful innovators, with the help of over a hundred social and environmental entrepreneurs worldwide. Here are some of the leaders—and three related trends:

**Time to change the rules**

The most-nominated changemaker was the Obama Presidency, the spotlight being on the hugely ambitious targets in its New Energy for America plan, with the State of California also making the final 50—despite its current financial problems—because of its role as an incubator of clean or green technology. Another Phoenix 50 leader, Van Jones of Green for All, has been recruited into the White House to boost the ‘green collar jobs’ side of the bail-out packages.

**New players are emerging**

New investors and financial models are going mainstream, having emerged in the corporate responsibility and sustainability realms, among them Climate Change Capital, Al Gore’s Generation Investment Management and Sustainable Asset Management, which co-evolved the Dow Jones Sustainability Indexes. Such organizations play key roles in investing in business models generating double and triple bottom line forms of value—but they lack the critical mass needed to achieve systemic change.

**This is a team sport**

Ultimately, innovation will be needed at every level of the financial system. Among the Phoenix 50 are Aflatoun, providing child financial education in a growing number of countries, Ceres, which recently convened 35 investors with over $3 trillion in assets to lobby Congressional leaders to pass strong legislation to spur a clean energy, low-carbon economy, venture capitalists Kleiner Perkins Caufield & Byers, who have piled into what they call green technology, and the Global Impact Investing Network, under development by a range of leading financial institutions. Initiatives like these give us real hope that capitalism can be reinvented to meet the needs of the twenty-first century.
2008), his latest report The Phoenix Economy (Volans, 2009).

Notes


3. In 2000, in an article in Tomorrow, we dubbed the 20th-century paradigm Cornucopian, arguing that a fit-for-purpose 21st-century paradigm would be Gaian.