2008 Pinchot Distinguished Lecture[1]

Ecology and the Challenge of Sustainable Investing

Joseph F. Keefe

Introduction

V. Alaric Sample[2]

The Pinchot Distinguished Lecture for 2008 will be given today by Joseph F. Keefe. Mr. Keefe, President and CEO of Pax World Management Corp., and of Pax World Funds, headquartered in Portsmouth, New Hampshire. Pax World launched the nation's first socially responsible mutual fund in 1971, and currently manages approximately $2.7 billion in assets across six mutual funds focusing on sustainable investing –the full integration of environmental, social and governance criteria into investment analysis and decision making.

Prior to joining Pax World, Mr. Keefe was president of NewCircle Communications, a strategic consulting and communications firm. He served as Senior Advisor for Strategic Social Policy at Calvert Group from 2003 to 2005. He is a former member of the board of directors of the Social Investment Forum. Before entering the social investment field, he was in private law practice for 16 years. In service to his broader community, Mr. Keefe is co-chair of the Carbon Coalition, a New Hampshire-based citizens group working on solutions to climate change. He is a former Democratic nominee for the US Congress from NH's 1st Congressional District, former chair of the NH Democratic Party, and a member of the Democratic National Committee. Mr. Keefe received his BA in Philosophy from the College of the Holy Cross, and his Juris Doctor from the University of Virginia School of Law.

My first encounter with socially responsible investing came several years ago when I was a graduate student at another well-known university. An extensive shanty town had been constructed facing the office of the university's president. It was made to resemble the impoverished South African community of Soweto, and it was there to persuade the president and board of the university to divest their holdings in South African companies that supported apartheid. It took more than a year to convince them, but it ushered in a broad new policy at the university regarding social responsibility in the investment of its substantial endowment.

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[1] The Pinchot Distinguished Lecture for 2008 was given at the Cosmos Club in Washington, DC on February 29, 2008. The Pinchot Distinguished Lectureship is bestowed annually by the Pinchot Institute for Conservation.

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Mr. Keefe's work in the area of socially responsible investing, and especially his ongoing efforts to reframe socially responsible investing in the context ecological, economic and social sustainability, are truly groundbreaking. The choices made by individual and institutional investors determine the availability of investment capital, and whether that flows to economic activities that contribute to long-term sustainability, or to those that do not. Mr. Keefe's leadership in educating investors, helping them to make better informed decisions about the economic activities they support through their investments, and demonstrating that sustainability and competitive financial returns are fully compatible, is having a profound and positive impact on investment behavior and on the global environment.

On behalf of the entire board of directors of the Pinchot Institute, it is my privilege to welcome Joseph F. Keefe as the Pinchot Distinguished Lecturer for 2008.

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Joseph F. Keefe

My remarks today will focus on whether sustainable investing can play a significant role in halting the dramatic decline of the world's natural environment, including the world's forests, the preservation of which is the focus of your work at the Pinchot Institute. My simple thesis is that sustainable investing can indeed play such a role, but more importantly, that it absolutely must. In my view, investors must be a critical driving force in moving corporations and markets in the direction of environmental sustainability. I would add that this is especially true so long as certain governments, one of them very close to home, continue to resemble "failed states" when it comes to addressing climate change and other urgent environmental issues.

Although my desire today is to talk more about solutions than problems, the enormity of the transformation we must undertake cannot be appreciated without some understanding of the enormity of the crisis that confronts us.

The times we are living in – if history is to be written by human beings centuries from now – will be seen as a pivot point in our evolution. Life has always changed the planet; billions of years ago, the Earth's atmosphere was made of methane, and it was changed to the oxygen-nitrogen brew we breathe today by living organisms. The difference between then and now is that this is the first time any species *knowingly* altered the fundamental processes of the planet on a global scale.

The latest report from the Intergovernmental Panel on Climate Change (IPCC) summarizes the overwhelming consensus of the world's scientific community that the earth's temperature will increase between 3 and 11 degrees Fahrenheit over the next century and this process cannot be slowed, let alone reversed, without a drastic (80 percent) reduction in greenhouse gas emissions. Failure to address this developing ecological catastrophe will mean rising sea levels, melting polar ice caps, coastal erosion, increasingly dramatic storms, floods and other natural disasters, accelerating species and habitat extinctions and unimaginable changes to life – including human life – on planet earth.
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Interestingly, the IPCC also estimates that deforestation and other land-use activities account for 18% of annual greenhouse gas emissions – a larger share than that contributed by all the planes, trains and automobiles in the world (the transportation sector), and 50% more than the annual emissions of all European power and energy enterprise. Thus, to achieve recommended emissions reductions will require significant reductions from the forestry sector. According to a recent analysis by McKinsey, forestry itself (both reduced deforestation and increased afforestation) can achieve up to 25% of the emissions reduction needed to keep total greenhouse gas concentrations below the level that scientists believe constitutes "dangerous" and irreversible interference with the climate – at or below 450-500 ppm of CO_2.

And although climate change may be the most urgent and potentially calamitous environmental challenge before us, it is only one of a myriad of environmental crises confronting humanity as we enter the 21st Century. Simply put, the vast stock of natural capital on which human life depends – air, water, minerals, oil, fisheries, forests and rainforests, grasslands, savannas, wetlands, estuaries, oceans, coral reefs – is deteriorating at an unprecedented rate. In fact, all of earth's basic life-support systems are in serious and accelerating decline while global population is rising precipitously.

In the past fifty years, the world has lost a fourth of its topsoil and a third of its forest cover. In the last thirty years alone, one-third of the planet's resources – the earth's "natural" wealth – have been consumed. We are losing freshwater ecosystems at the rate of 6 percent per year, and marine ecosystems at the rate of 4 percent per year. At present rates of destruction we will lose 70% of the world's coral reefs in our lifetime, host to 25 percent of all marine life.

And then there are the world's forests. The worldwide demand for forest products – lumber, paper and fuel-wood – is overwhelming the sustainable yield of forests, which the earth needs to cycle nutrients, regulate climate, stabilize soil, treat waste and provide habitat. Rainforests – home to nearly half of all life forms on the planet – are disappearing at the rate of 78 million acres per year, an area larger than Poland. Not coincidentally, we are also witnessing historic rates of species extinction – some 50,000 species lost each year.

Paper alone could be our undoing. Among all U.S. manufacturing industries, the paper industry is the fourth largest contributor to greenhouse gases, according to a report by the Environmental Paper Network. Paper accounts for 25 percent of landfill waste, the largest single component. Forty-two percent of the industrial wood harvest goes to make paper. Nine percent of total manufacturing carbon dioxide emissions come from pulp and paper manufacturing, with the majority stemming from the energy production needed to power pulp and paper mills. On average, Americans use 700 pounds of paper each year, the most, per capita, in the world – but we comprise only six percent of global population.

Between 1950 and today, world population increased from 2.5 billion people to 6.5 billion people, and is projected to grow to 9 billion people by 2050. Virtually all of this projected future growth will take place in the developing world, where countries are already overpopulated and natural ecosystems – the source of food and nutrition – are strained to the breaking point. In fact, the world is fast approaching or has already crossed the sustainable yield thresholds of many natural systems. . According to the World Wildlife Fund, 1986 marked the year that humans reached Earth's total carrying capacity—and ever since then we've been drawing down the account.[3] The amount of fresh water and the sustainable yield of oceanic fisheries, forests and rangelands cannot keep pace with projected population growth. The over-pumping and depletion

[3] World Wildlife Fund, *Living Planet Report 2004*, October 9, 2004.

of aquifers has already led to falling water tables – particularly in China, India and North Africa - that exceed the rate of natural recharge from rainfall and melting snow. This will threaten grain harvests and compound the problem of feeding growing populations already swelling with hungry and malnourished children.

Approximately 2.8 billion people, almost half the world's population, struggle to live on less than two dollars a day. Over 1 billion people – roughly one out of five people in the developing world – are chronically hungry, and six million people die each year (24,000 every single day) from hunger and malnutrition. Three quarters of these are young children, innocents all, whose short, brutish lives and unspeakable suffering should itself be enough to prick our consciences and urge us to action.

And yet against this backdrop of environmental decline and growing disparity between the rich and the poor, consumption rates in the developed world continue to rise, increasingly fueled by ever greater levels of debt if that's what is needed to keep the binge going. In fact, some curious anomalies have developed: the world's 1.2 billion hungry people are now equaled by some 1.2 billion *overfed* people whose excessive caloric consumption leads to heart disease, obesity, diabetes, cancer and other chronic ailments; we spend eight times more on Christmas decorations each year than we do on aid to Africa. Consumption rates in the developed world today – in North America, Western Europe, Japan and Australia – are approximately 32 times higher than in the developing world. In other words, each one of us consumes 32 times more than the average Kenyan.

As Jared Diamond wrote recently in an op-ed for the New York Times: "If India as well as China were to catch up, world consumption rates would triple. If the developing world were suddenly to catch up, world rates would increase eleven-fold. It would be as if the world population ballooned to 72 billion people (retaining present consumption rates)." China's consumption rate is 11 times below ours but they are working hard to rise to our level. China's catching up alone – with no other nation increasing its consumption rate at all – would double world consumption, according to Diamond. (As if further proof were needed, China will soon overtake the United States as the world's largest emitter of greenhouse gases – the Department of Energy estimates in 2009.) The additional, calamitous impact this would have on climate, on oceanic fisheries, on forests – on the earth's ecological balance – given what is already taking place at present consumption levels, is almost too much to imagine.

At the Pinchot Institute, of course, you are already imagining it. The question you ask is: Can we extract enough timber to meet the world's wood and paper needs in an era of rising population and rising consumption without overwhelming, and finally destroying, the world's forests? This question is just a specific instance of a much larger question: Can we extract enough natural resources to meet the world's rising population and consumption patterns without utterly destroying the natural environment? To paraphrase the poet Lawrence Ferlinghetti: *Must man burn down his own house to roast his pig?*

This is the juncture at which we find ourselves. The only answer, the only way out, it seems to me, is to set in motion a Sustainability Revolution equal in significance to the Industrial Revolution that ushered in the modern period. We must get about this work with all deliberate speed.

But how do we go about the gargantuan task of transforming the economic engine we call market capitalism? How do we alter the way corporations and markets behave? How do we produce wealth – and indeed rising standards of living in developing nations – while also lowering consumption rates (or at least altering consumption patterns) given that current consumption rates, let alone future ones, coupled with growing population, are clearly unsustainable?

This is the challenge before us. It is the challenge of sustainability, and for those of us in the investment arena, it is clearly the challenge of sustainable investing.

The concept of sustainability implies a new conception of wealth, and may in fact offer a solution to the crisis of capitalism. Why? Because it insists on an alignment of financial outcomes with environmental, social and governance outcomes. The sustainability imperative requires that corporations and markets behave differently; it demands that wealth-creation strategies be made, well, *sustainable* – that we no longer tolerate poverty and injustice and environmental degradation as the necessary byproducts of market capitalism.

One of the first and most oft-cited definitions of sustainability was offered by the Brundtland Commission, which defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition implicitly argues for the rights of future generations to resources and raw materials and that impacts on vital ecosystems be taken into account in economic decision making. Sustainability has a more general meaning as well. It is simply the notion of durability, of ecological and other systems continuing to be productive over the long term, perhaps even lasting indefinitely. In the past, all complex human societies have died out or collapsed, often as a result of stresses on ecological support systems. So, what the Sustainability Revolution is ultimately about is re-engineering human economies and societies so that they don't collapse but instead endure.

What is sustainable investing and how does it figure in this revolution? Sustainable investing is the full integration of environmental, social and governance (ESG) factors into investment analysis and decision making. Through a combination of rigorous financial analysis with equally rigorous ESG analysis, a sustainable investing approach seeks to identify companies whose business models and practices are more sustainable than their competitors. The theory underlying sustainable investing is that these companies, because they are more forward-thinking and are developing more sustainable business models, are better long-term investments. By this I don't mean to suggest that each and every individual company displaying such characteristics will necessarily outperform its less enlightened competitors but that investment *portfolios* comprised of such companies, or designed with such ESG metrics in mind, will outperform investment portfolios that ignore such factors over the long term.

And the long term is really what we should be concerned about – as investors, as citizens, as living beings in an ecosystem. Short-term thinking – short-termism, if there is such a phrase – is really what is sinking us. Sustainable investing, at its core, is fundamentally an effort to induce markets to start pricing in – to begin ascribing value to – certain critical long-term metrics that once upon a time were derided as "intangibles," or as "subjective," or as "qualitative," but the materiality of which, from a financial perspective, is now increasingly clear.

Sustainable investing as I am using the term is related to and shares elements in common with but is not the same as what is known as "socially responsible investing." Socially responsible investing (SRI) encompasses a whole range of investment styles premised on different values – often religious in origin – and historically has been typically defined in terms of certain investment exclusions: alcohol, gambling, tobacco, firearms, interest or usury for the Muslim investor, contraceptives for the Catholic investor, etc. Because of this negative approach – excluding certain types of companies, or entire industries based on certain value choices – SRI historically became defined by what it *didn't* invest in. Sustainable investing, by contrast, represents a more positive discipline that defines itself in terms of what it *does* invest in: companies with strong ESG or sustainability performance.

Sustainable investing represents an explicit challenge to classic conservative political economy, best exemplified by Milton Friedman's famous dictum that the only duty of a corporation is to make a profit. Sustainable investing posits, to the contrary, that the best companies (and the best investments) are those that act in the public interest; that serve all their stakeholders, not just shareholders; that do not externalize their costs onto society; and that pursue wealth creation strategies focused on the long term. Moreover, government (i.e., the public) has a positive role to play in regulating corporations and markets to redress social imbalances and optimize social outcomes. Sustainable investing is the investment arm of the Sustainability Revolution just as classical conservative investing is the investment arm of the Industrial Revolution. It is time to move on.

Moreover, the case for sustainable investing is compelling. A growing body of evidence demonstrates positive links between ESG performance and financial performance. A few examples:

a. A recent report of the United Nations Environmental Programme Finance Initiatives (UNEP FI), *Show Me the Money*, summarizing some of evidence to date on the correlation between sustainability performance and financial performance, concluded with commentary from financial consulting firm CRA RogersCasey, stating: "[W]e were impressed by the quantity of reports that showed a strong link between ESG issues, profits, business activities and, ultimately, stock prices." [4]

b. The Haas Business School at Berkeley and the Social Investment Forum award an annual prize to an academic paper that is considered outstanding in its quantitative examination of socially responsible investing. The 2005 prize-winning paper, entitled "The Economic Value of Corporate Eco-Efficiency, concluded that the most eco-efficient firms do better than the laggards, earning an "abnormal return"—the term investors use to describe performance above average—of between 2.8% and 5% over the period from 1997 through 2004. [5]

c. A study done by Innovest Strategic Value Advisors, a financial research firm, referenced in a recent Watson Wyatt paper,[6] simulated the effect of incorporating Innovest's environmental ratings into portfolios of large US pension funds by adjusting, on a month-by-month basis, portfolio weightings according to those environmental ratings – in other words, overweighting the best environmental performers. Over a three-year period (2002-2004), these environmentally weighted portfolios outperformed the actual portfolios for every scenario (low, medium, and high tilt) in almost every asset class examined. The results were similar over longer timeframes as well.

d. Another recent paper showed that returns were higher for companies that ranked highly on Innovest's eco-efficiency measures over a period of more than seven years, outperforming both a market proxy and companies with lower rankings.[7]

[4] United Nations Environment Programme Finance Initiatives, *Show Me the Money: Linking Environmental, Social and Governance Issues to Company Value*, (Geneva: United Nations, 2006).

[5] Nadja Guenstera, Jeroen Derwalla, Rob Bauer, and Kees Koedijka, "The Economic Value of Corporate Eco-Efficiency," August 2006.

[6] Watson Wyatt, "What is? Sustainable Investment," January 2007.

[7] Nadja Guenster, Jeroen Derwall, Rob Bauer, and Kees Koedijk, "The Eco-Efficiency Premium Puzzle," *Financial Analysts Journal* (61:2), 2005.

e. According to Innovest, "there is increasing evidence showing that superior performance in managing climate risk is a useful proxy for superior, more strategic corporate management, and therefore for superior financial value and shareholder value-creation." Innovest's latest global analysis shows that companies that do the best in managing their carbon emissions surpassed the returns of companies rated below average in carbon-emission management by an annualized rate of return of 3.06 percent. The comparable figure for the United States is 2.4 percent, and for Europe 6.6 percent. [8]

f. McKinsey has said that, "tackling carbon exposure is more than good environmental stewardship; it could also protect a company's share price in the near term and create long-term competitive advantage." [9]

g. In the summer of 2007, Goldman Sachs introduced GS Sustain, a focus list of companies that Goldman's analysts believe are attractive from an integrated ESG/financial perspective. While Goldman Sachs states that ESG analysis *alone* does not necessarily add value, the integration of ESG with financial metrics does: the sustainability "winners" identified by Goldman outperformed the MSCI World index by 25% over the two years between summer of 2005 and summer of 2007.

h. A brand-new report from the UNEP FI reinforces the findings of groups like Innovest, Watson Wyatt, and Goldman Sachs. This report, written by Mercer (a well-respected investment consultant) reviews 20 academic studies and 10 broker studies that examine the impact of ESG variables on financial performance. The academic studies chosen all met several criteria, including publication in peer-reviewed journals. Of the 20 studies, half found that good ESG performance was positively related to financial performance, 7 found no significant effect (i.e., no difference in the performance of portfolios incorporating ESG factors, compared with more traditionally constructed portfolios), and 3 found a negative association. Again, the overwhelming weight of the data demonstrated the financial materiality of ESG or sustainability performance. [10]

i. In your particular area of interest, one of the earliest studies to take a good hard look at the financial impact of environmental management and disclosure in the forest products industry was "Coming Clean," a study done by Robert Repetto and Duncan Austin at the World Resources Institute back in 2000. The study estimated the impacts of known, impending environmental issues on the capital expenditures and future earnings of 13 leading, publicly listed companies in the US pulp and paper industry. It found that the impacts were likely to materially affect the value of stockholder equity, the firms' competitive position, and their financial risks. It concluded that while several companies were immune to environmental risks, others faced significant probabilities that impending environmental issues would be resolved in ways that reduced the value of the

[8] Innovest Strategic Value Advisors, "Carbon Beta™and Equity Performance: An Empirical Analysis: Moving from Disclosure to Performance," October 2007.
[9] Christoph Grobbel, Jiri Maly, and Michael Molitor, "Preparing for a Low-Carbon Future," *McKinsey Quarterly*, November 2004.
[10] United Nations Environment Programme Finance Initiatives, *Demystifying Responsible Investment Performance: A Review of Key Academic and Broker Research on ESG Factors,"* Asset Management Working Group and Mercer, October 2007.

> companies by as much as 20%. Seven of the 13 companies were judged to have a greater than 20% chance of experiencing a loss of more than 10% of their value. [11]

I could go on—there are dozens of such studies—but you get the picture. The bulk of the research shows strong correlations between ESG performance and financial performance even though to date the market (and the conventional wisdom on Wall Street) has been skeptical about whether these correlations can be quantified. The studies from mainstream financial institutions I have just cited should help to upend this conventional wisdom as the correlations are becoming both increasingly obvious and increasingly quantifiable.

Sustainable investors, in concert with other concerned investors – environmentalists, labor unions, state and municipal pension funds, socially responsible mutual funds, religious groups, corporate governance watchdogs and other institutional investors – also engage in shareholder activism through proxy voting, dialogue with corporate management and shareholder resolutions. Over the next few months, for example, at least 60 shareowner resolutions will be filed with more than 50 companies on a wide range of issues related to climate change. The Carbon Disclosure Project, a global coalition of more than 300 institutional investors, The Investor Network on Climate Risk, coordinated by CERES, and comprising more than 50 American institutional investors, including a number of state treasurers, pension funds, leading labor funds, and some foundations, with total assets of more than $4 trillion, and the Institutional Investors Group on Climate Change, including 35 of Europe's leading institutional investors, have been involved in these efforts.

This combined muscle of institutional investors can have an impact. For example, in 2004, American Electric Power responded to shareowner pressure by issuing a report on the actions the company was taking to significantly reduce carbon dioxide and other emissions. In 2007, a number of shareholder resolutions were withdrawn after companies agreed to comply with the filers' requests. Among them were Anadarko Petroleum, ConocoPhillips, Costco, Hartford Insurance, Prudential Financial, Starwood Hotels & Resorts, Toll Brothers, TXU Energy, and Wells Fargo. Other companies, like ExxonMobil, have remained unmoved by shareowner efforts on climate change issues. Each year, however, more shareowners are voting in favor of resolutions that urge the company to take steps to reduce its greenhouse-gas emissions. Last year, 31 percent of ExxonMobil shareowners approved a resolution asking for a reduction of greenhouse gases.

Shareholder activism works. Over the past few decades activist shareholders have helped persuade the companies whose shares they own to agree to third party monitoring and verification for labor and human rights standards in overseas supplier networks; to adopt non-discrimination policies toward gay and lesbian employees; to bring greater racial and gender diversity to their boards; to issue sustainability reports; to disclose or set targets for greenhouse gas emissions; in the case of Dell, to recycle computers; in the case of Staples (the world's largest white paper retailer) to obtain paper only from certified sustainable forests and increase the post-consumer recycled content of its products.

So, back to our question: how does sustainable investing play a role in halting the destruction of the earth's environment? I have briefly described how sustainable investors – through shareholder engagement strategies – can begin to affect the behavior of corporate management. I have also provided some evidence that integrating sustainability concerns into investment strategies can benefit investors from a financial perspective. The question is: is this sufficient

[11] Robert Repetto and Duncan Austin, *Coming Clean*, World Resources Institute, 2000.

evidence to suggest that sustainable investing can not only be a credible, alternative investment strategy but has the potential to become a *transformative* investment strategy that helps reverse the destruction of the earth's forests and the global environment?

The answer is *yes*, but it will depend on us – as everything ultimately does. *We* will have to assure the triumph of sustainable investing over classical conservative investing, and the only way we can do so is by practicing sustainable investing. Because you see, I have only demonstrated to you that sustainable investing works *a little*. We have to demonstrate, and ultimately we have to ensure, that it works *a lot*. We have to demonstrate that investors, by investing with sustainability principles in mind, can hasten the day when economy and ecology are no longer at odds but are aligned.

Sure, the evidence is increasingly clear that improved sustainability practices by companies can buttress their stock prices – that sustainability can be a driver of shareholder return. This in turn should provide incentive for companies to become more sustainable, which should further improve stock performance, etc., in a virtuous circle. But can we make the case that by affecting stock performance we cannot only influence companies at the margins but can affect them dramatically – that through such a process investors can move markets themselves? This is the critical question.

And when I say the answer depends on us the reason for that is very simple: we cannot prove the proposition in advance, or in the abstract. We know that today's corporations, and market capitalism in its present form, will not produce the desired result without intervention. Investors – individual and institutional – are not the only interveners. There is government. There are consumers. There are employees. There are NGOs. There are other pressure points. But one key pressure point is for individual and institutional investors to *insist* that the long-term health of their investments – the companies they invest in – is premised on continued progress toward sustainability.

As investors, we must find ways to *insist* that sustainability matters by rewarding stock prices where it is integrated and punishing stock prices where it is ignored. As investors we have to start insisting on lower emissions in the march towards zero emissions, on less waste in the march towards zero waste. We need to attach a cost or put a price on waste and other forms of pollution that penalize their production. We have to reward sustainability and punish its opposite.

For anyone who doubts that this is doable, consider this: investing is much like the eponymous Sphere of Michael Crichton's book (and a very forgettable movie), a place in which there was no difference between what its inhabitants *thought* and what *was*. What investors think moves markets, whether it's intelligent thought or not. If most investors believed that companies with thoughtful long-term management of environmental and social performance and policies to improve them were better-managed, those companies would trade at a premium, compared with those that don't. Investors can impact markets by buying the securities of more sustainable companies and selling the securities of less sustainable companies. We can buy the leaders and short the laggards and then, as engaged shareholders, persuade the leaders to continue to set the bar higher and to attach ever greater focus to the long-term.

We can do this across a range of issues. For example, as you well know, strategies like forest certification – a voluntary, market-based, non-regulatory forest conservation tool, based on independent, third-party verification – can help promote sustainable forestry practices. As can perhaps other certification strategies in other industries. But as I understand it, to date forest certification only extends to 60 million acres in the US, including 14 million acres of public land,

and only 7 percent of the world's forests are certified. This is perhaps a place where investors can intervene more than they already have (note the previous example of Staples, where the intervention of NGOs and investors was successful). This is perhaps a place where investors (through their investment choices, and once invested, through shareholder activism), consumers (through their purchasing decisions) and government (through a variety of strategies) can work in concert to promote certified wood products and discourage use of non-certified wood. We have to strive to make sure that companies that deal in certified wood products benefit from that choice, and that those who do not pay the price for ignoring sustainable forestry practices. Just last week we saw an example of the potential power of investors when CalPERS announced it would invest $2 billion in forest projects. Under CalPERS' new policy, any forest investments it makes will eventually have to be certified "sustainable" by an independent third party. A spokesman for the Nature Conservancy says CalPERS' decision may inspire not only other pension funds, but the timber industry as well.

Investors can also pressure businesses to, for example, use recycled copy paper from 100 percent recycled content instead of copy paper from 100 percent virgin forest fiber. This reduces total energy consumption 44 percent, net greenhouse gas emissions 38 percent, and particulate emissions 41 percent. It also cuts both wastewater and solid waste in half and eliminates wood use entirely, according to the Environmental Paper Network. Once again, we can work together to ensure that the use of recycled paper is rewarded and the use of non-recycled paper is punished by the market.

A case in point: It was recently reported that Staples canceled all contracts with a Singapore-based paper company, Asia Pulp & Paper (APP), because of concerns over its deforestation practices. APP, one of the world's largest paper companies, has been accused of illegal logging in Chinese forests, as well as in Indonesia. APP supplied Staples with between 5 and 9 percent of its total paper supply. According to Reuters, Staples stopped doing business with APP because there was no indication the company was making progress in protecting the environment. Other companies in the U.S., Europe and Asia also have severed ties with APP. Remaining an APP customer was "at great peril to our brand," according to Mark Buckley, Staples' vice president of environmental issues, as reported in the Wall Street Journal. "We decided engagement was not possible anymore," said Buckley. "We haven't seen any indication that APP has been making any positive strides" to protect the environment.

Remember, there is no reason for businesses to develop conservation strategies on their own – to re-focus from the short term to the long term – unless investors, consumers, NGOs or government make it more profitable in the long run for them to do so and less profitable in the short run for them not to do so. Staples' recent actions indicate that companies are beginning to understand this – that their brands are at stake, that they need to be responsive to investor, consumer and public expectations.

I am not saying that investors can do it alone. But sustainable investors, aligned with sustainable consumers and sustainability-focused NGOs can change corporate behavior and move markets. But there needs to be more of us. Every single person in this room should be investing in this way, just as every single person in this room should be consuming in this way, and voting in this way. We have to deploy every weapon in our armature. If we are using some but not others – e.g., buying organic food but not investing responsibly, or supporting the work of The Pinchot Institute on the one hand but allowing our investment adviser or financial planner to invest our money the same old way, on the other, then we are part of the problem rather than part of the solution.

Nor can we simply wait for government to act. I haven't addressed public policy in my remarks today but clearly government action will be necessary. Markets did not exist in a state of nature, nor did corporations. They are human social creations. They were created by statute, by property law, by tort law, contract law, by state corporation laws, by the Securities Acts of 1933, and so forth. The notion that corporations and markets should be left unfettered and unregulated is ahistorical nonsense. Markets have always been the creatures of governments and government will need to get involved in the creation of new markets and the alteration of old ones if the Sustainability Revolution is to go forward. Government will need to subsidize renewable energy; it will need to enact mandates (like renewable portfolio standards for the electric industry); it will need to tax waste, and pollution, and other unsustainable behavior – perhaps instead of taxing wages and savings. (The Irish government recently passed a heavy tax on plastic bags to discourage their use – a bully idea.) But governments come and go, and though we will thankfully have a new one ourselves as of January 20, 2009, we cannot expect government to be the driving force in any event. More likely, policy makers will react to what *we* do – as voters, as consumers, as investors – and government will only act when we make it logical and necessary and inevitable that it must act.

In the meantime, the good news is that the investment world has discovered the environment. Whereas most investment professionals historically regarded environmental impact as a peripheral issue, now a veritable green wave is upon us. It has become fashionable. As Joel Makower of GreenBiz.com put it: "Green is the new black." Every major business journal, from Forbes to Business Week to the Economist to Fortune, has featured environmental leadership articles in the past year. Alternative energy and clean tech funds have exploded: CleanEdge reports in its 2007 trends report that clean energy venture capital investments have grown from $468 million in 1999 to $2.4 billion in 2006—nearly 10% of all venture capital in the US. And that's just clean energy; there is also a welter of new clean tech funds and climate funds, even indices and ETFs, in this space. Some hedge funds are hawking "carbon betas," or ways to make long and short bets based on the risks and opportunities of climate change.

Closer to the hearts of those interested in forestry, green property investing has also made a strong debut. Boston College, together with the University of Arizona, has launched the Responsible Property Investing Center, and UNEP FI formed a property working group last year. Institutional investors are taking an interest; green real estate investment is on the brand-new list of commitments of the signatories to the Investor Network on Climate Risk (INCR).

In a recent survey by Allianz Global Investors, 71% of investors surveyed said that environmental technology was a "buy" and the most desirable sector to invest in; 54% listed investing in the environment as an "important focus" for their future investments; 62% replied that solar energy was a major investment opportunity, and over 50% of respondents also agreed that wind power, hybrid vehicles, and water purification present major investment opportunities. Some 49% of those surveyed said they would likely invest in a company or mutual fund that is providing solutions to environmental problems.

So, as the saying goes, there is no time like the present. Our time is now.

Every few generations, market capitalism undergoes a period of transformation – Populism, the Progressive Era, the New Deal, the Great Society. These great periods of reform yielded child labor laws, the minimum wage, the eight-hour day, workers compensation laws, unemployment insurance, antitrust and securities regulations, Social Security, Medicare, the Community Reinvestment Act, the Clean Air Act, Clean Water Act, Environmental Protection Agency, etc. All of these reforms were essentially public and stakeholder attempts to address the worst excesses of market capitalism. The next great period of reform must be the Sustainability Revolution, and it must be greater than any of these – indeed, it must be akin to a second Industrial Revolution that transforms human society itself.

The Sustainability Revolution is coming but it will not arrive without our help. It is our actions that will usher in this great transformation. Sustainable investing – the full integration of environmental, social and governance (ESG) factors into financial analysis and decision-making – is a necessary precondition to this transformation. Just as we must integrate sustainability into our consumption patterns, our lifestyle patterns, our voting patterns, so we must integrate it into our investment patterns. To abandon classical investing in favor of sustainable investing has become, in my view, a moral imperative. It is something we simply must do. It is an obligation our generation owes to future generations. And if we take up this task, our children and theirs will remember what we did, as they go about their beautiful green lives on this beautiful blue planet.

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About the Pinchot Distinguished Lecture

The legacy of Gifford Pinchot—both his place in conservation history and his respect for principled and provocative speech and prose—is the premise for the Pinchot Distinguished Lecture series. Through the series, the Pinchot Institute seeks to advance the understanding and current thinking about contemporary issues in natural resource conservation.

The Pinchot Distinguished Lecture is an annual event sponsored by the Pinchot Institute, focused on major trends that are influencing the future, or have influenced the history, of forests and forest conservation. The individual selected to give the Pinchot Distinguished Lecture is determined each year by the Institute's board of directors, in recognition of his or her outstanding contributions to the theory or practice of natural resource conservation.

These lectures reach a diverse audience of natural resource conservation professionals and policymakers in the nation's capital, and often provide new and innovative insights that influence future decision making. In doing so, these lectures help advance the broader mission of the Pinchot Institute to continue the legacy of Gifford Pinchot by providing leadership in forest conservation thought, policy and action. The Institute also publishes each Pinchot Distinguished Lecture, making it available in both print and electronic form to reach the broadest possible audience.
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Joseph F. Keefe
President and CEO
Pax World Funds

Joseph F. Keefe is President & Chief Executive Officer of Pax World Management Corp., and of Pax World Funds (www.paxworld.com), headquartered in Portsmouth, New Hampshire. Pax World launched the nation's first socially responsible mutual fund in 1971, and currently manages approximately $2.7 billion in assets across six mutual funds focusing on sustainable investing – the full integration of environmental, social and governance criteria into investment analysis and decision making.

Prior to joining Pax World, Joe was President of NewCircle Communications, a strategic consulting and communications firm. He served as Senior Adviser for Strategic Social Policy at Calvert Group, from 2003 – 2005, and from 1997 to 2000 was Executive Vice President and General Counsel of Citizens Advisers, investment advisor to Citizens Funds. He is a former member of the Board of Directors of the Social Investment Forum (2000 – 2006). Before entering the social investment field, he was in private law practice for 16 years.

Joe is Co-Chair of the Carbon Coalition, a New Hampshire-based citizens group working on solutions to climate change. He also serves as New Hampshire Co-Chair of ONE Vote '08, a voter education project of the ONE Campaign, focusing on persuading U.S. presidential candidates to make the eradication of global poverty and AIDS top priorities of the next administration. He is a member of the Board of Directors of Americans for Campaign Reform, an organization promoting public funding of federal elections, and On Belay, an organization working with children whose parents or guardians have been stricken with cancer or other life-threatening illnesses.

Joe is a former Democratic Nominee for United States Congress in New Hampshire's First Congressional District, and a former Chair of the New Hampshire Democratic Party and member of the Democratic National Committee. He has extensive experience in national and local political affairs and in television and radio commentary, including many years of New Hampshire-based television and radio work, as well as surrogate appearances on behalf of Kerry for President on *The Tim Russert Show* (CNBC), *Crossfire* (CNN), *Hannity and Colmes* (Fox), Fox News, New England Cable News (NECN) and other media outlets, as well as previous surrogate experience on behalf of Al Gore in 2000 and Clinton-Gore in 1996.

Joe received a BA in Philosophy from the College of the Holy Cross, and a Juris Doctor degree from the University of Virginia School of Law.

About the Pinchot Institute

Mission

The Pinchot Institute for Conservation is an independent, non-profit public interest organization dedicated to leadership in forest conservation thought, policy, and action. The mission of the Pinchot Institute is to advance conservation and sustainable forest management through independent research, and the development of innovative, practical and broadly-supported solutions to conservation challenges and opportunities. The Pinchot Institute accomplishes this mission by:

- Providing research, education and technical assistance to improve the science, policy and practice of sustainable forest management
- Carrying forward Gifford Pinchot's legacy of conservation leadership by facilitating development of practical solutions that improve the ecological soundness, economic viability and social responsibility of forest conservation and management
- Bridging the interests of a diversity of public interests in natural resource conservation to develop practical long-term solutions to conservation challenges, and catalyze the public consensus needed to implement them effectively
- Fostering the development of new leaders in natural resource conservation in public, private and nonprofit institutions locally, nationally and internationally.

Board of Directors