



E3G

# Environment and Business in the 21<sup>st</sup> Century

**Risks, Rewards and Responses.**

The Evelyne and Clifford H Barclay  
Foundation Lecture, Templeton  
College, Oxford.

**Tom Burke**

**9 November 2006**



© E3G 2006

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 2.0 License.

You are free to:

- Copy, distribute, display, and perform the work.
- Make derivative works.

under the following conditions:

- You must attribute the work in the manner specified by the author or licensor.
- You may not use this work for commercial purposes.
- If you alter, transform, or build upon this work, you may distribute the resulting work only under a license identical to this one.
- For any reuse or distribution, you must make clear to others the license terms of this work.
- Any of these conditions can be waived if you get permission from the copyright holder.

Your fair use and other rights are in no way affected by the above.

### **About E3G**

E3G is an independent, non-profit European organisation operating in the public interest to accelerate the global transition to sustainable development.

E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change.

E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

More information is available at [www.e3g.org](http://www.e3g.org).

### **E3G**

The Science Museum

Exhibition Road

London SW7 2DD

Tel: +44 (0) 207 942 4060

Fax: +44 (0) 207 942 4062

[www.e3g.org](http://www.e3g.org)

# Environment and Business in the 21<sup>st</sup> Century: Risks, Rewards and Responses.

The Evelyne and Clifford H Barclay Foundation  
Lecture, Templeton College, Oxford.

Address by Mr Tom Burke CBE, 9<sup>th</sup> November 2006.

Let me begin by thanking Michael Earl and Stephen Barclay for the invitation to address you this evening. This was a completely unexpected honour and not one for which I am well prepared by prior experience. John Templeton exhorted us to 'work at being a humble person'. Following in the footsteps of such distinguished previous lecturers as Eddie George and Charles Handy means I am not finding that so hard to do this evening.

I am better prepared to live up to one of his other precepts as 'one who, according to the customs of his time, might be branded a heretic'. More than thirty years working as an environmentalist have made me rather familiar with the theory and practise of heresy. But there have been many over those years who sought assiduously to bring me back to whatever they conceived of as the true faith.

This has meant that I have received a rather superior education as leading figures in many walks of life went out of their way make sure that I fully understood the workings of their institution or profession. It has also paved the way for a somewhat chequered career – though that might be far too organised a word for my rather erratic passage through the environmental NGOs, government and business.

But it does mean that I have been privileged to experience the hugely challenging issues of the environment from a variety of perspectives. It also means that I have drawn considerably on the knowledge and experience of a great many colleagues in developing my thinking on the challenges facing

business and the environment as we move deeper into the twenty first century. They do not, however, bear any responsibility for the results.

My proposition this evening is that the 21st century will pose environmental challenges to the business community that are of a different order than those posed in the 20<sup>th</sup> century. This will create both new kinds of risk and new opportunities for business to respond to. If the challenges of the 20<sup>th</sup> Century required a tactical response from business, those of the 21<sup>st</sup> century will require a strategic response.

Contributing to the global transition to sustainable development will be an imperative for business, not an option. So will forming active partnerships with government to maintain the environmental conditions which make security and prosperity possible.

We live in extraordinary times. More people live longer, healthier lives, with more prosperity and greater security than ever before in history. We live in a world beyond our parents' wildest dreams. There is no beach too remote, nor mountaintop too distant, for us to visit. We are connected to each other as never before: by trade, by internet, by satellite television and mobile phone.

It is also a world of accelerating change.

Globalisation has greatly expanded the realm of opportunity lifting many millions out of poverty. The creation of a single global information space has allowed us to create truly global markets for capital, goods and services. Falling prices of energy, commodities capital and information have underpinned prolonged growth of the global economy.

But globalisation of opportunity has not often been accompanied by globalisation of responsibility. Too many millions can see, but cannot reach, the opportunities. Not all the change is good.

When I was born there were just over 2 billion people on the planet. Today there are 6.5 billion. With luck, and the benefit of modern medicine, I might well live to see the 8 billionth person born.

When I was born there were about six million elephants on earth. Today there are about six hundred thousand. I may well also live to see the last elephant in the wild die.

The extraordinary economic growth we have witnessed in the past fifty years has not been bought without cost. Much of that cost has fallen on the environment. Not until the end of the sixties did the world begin to tackle this problem with any conviction.

Since then we have been dealing with the easy politics of the environment. It has a familiar agenda. Air and water quality. Noise and nuisances. Toxic chemicals, radioactivity, wastes and recycling. Business everywhere is now increasingly engaged in solving these problems.

They are the easy politics of the environment because the need to tackle these issues was clear. Rivers were catching fire or feet deep in foam. Children could be found playing on uncontrolled hazardous waste dumps.

When politicians did take action there were many more winners than losers. The policy tools and institutions required were easily available. The issues were readily comprehensible to the media since there were clear villains and victims. You were on the side of the victims – who were often found among the least advantaged – and against the villains – who quite often turned out to be businesses.

In much of the world we have done well on this environmental agenda. We have made significant progress in improving air and water quality; wastes are much more commonly recycled. Furthermore, the cost of dealing with them turned out to be much less than was often thought. Cutting pollution very often also cut costs.

Dealing with this environmental agenda may not have seemed easy at the time but compared to the agenda that is now coming to dominate the environmental debate it really was. In the 21<sup>st</sup> century we must face the hard politics of the environment.

The agenda is different: climate change, deforestation, water availability, biodiversity loss, fisheries collapse, soil loss. The need to tackle these issues is not so obvious. Fishermen are still arguing that there are plenty of fish in the sea. Former chancellors will still tell you there is no need to do anything about climate change.

If you do act on this agenda, there are many more losers than winners. It is not immediately obvious what policy tools and institutions are needed. The media has great trouble getting a clear focus on the complex trade-offs involved and

has no easy way of dealing with problems where the villains and the victims are the same people.

Needless to say, we have made little progress in solving these problems and while that might, at first sight, look to have let business off the hook my argument this evening is that the business community will pay dearly for this failure as the century progresses.

The agenda of the hard politics of the environment might also be called the sustainable development agenda. I know of no concept more prone to produce definitional constipation than sustainable development. I am quite content with the original Brundtland definition – development which meets the needs of today's generation without undermining the capacity of future generations to meet their needs.

Put operationally this means finding the ways to provide rising real incomes to some 8 billion people without collapsing the ecological foundations of the economy – croplands, rangelands, forestlands, freshwaters, the atmosphere and the ocean.

Let me take a moment here to set sustainable development in its historical context. The phrase is rather more than a fashionable arrangement of words, though that is often overlooked, even by its most active promoters.

From about the middle of the 18<sup>th</sup> Century there was a sustained debate, predominantly within Europe, about how to make the economy grow. As the industrial revolution gathered pace under the stimulus of the Napoleonic wars and the subsequent prolonged period of peace the answer became clear.

If individuals are freed to pursue their own self-interest, the interests of all will be enhanced and the economy will grow.

As a formula for increasing economic growth, there is no doubt that this argument was correct. As this liberal doctrine gained hold, economies did indeed grow rapidly. But as they grew they let loose an avalanche of change. It soon became apparent that economic growth disrupts social ligatures.

The complex, multi-dimensional relationships of relatively stable communities are replaced in the creative destruction of capitalism by the simpler, transactional relationships of the cash economy. Cultural bonds with their complex patterns of mutual rights and obligations are replaced by economic

bonds based simply on the ability to pay. This is undoubtedly more efficient. It is not necessarily more stable.

Margaret Thatcher never quite understood that you cannot have both an accelerating expansion of economic opportunity and a return to Victorian values. The corrosive effect of rapid economic growth demolishes precisely those culturally rooted implicit rules which expressed Victorian values.

In the 19<sup>th</sup> Century rapid economic growth led, then in Europe, as it does now globally, to very rapid social change. This social change, unmediated by any attempt to ameliorate its impacts on the welfare of large numbers of people, led to growing political instability which threatened to undermine the engine of the economic growth driving the change. It is worth recalling that by 1848 Marx had already written the communist manifesto.

In time, the beneficiaries of industrialisation came to realise that to continue reaping the benefits they had to share them. A new debate began about how to maintain the social conditions necessary for growth. The answer that emerged over the next century was that some of the proceeds of economic growth must be invested in maintaining those social conditions.

Institutions, policies and programmes were developed to do just that. Starting with Bismarck in the 1870s the nations of Europe slowly laid the foundations for the culture of solidarity, community and social investment that is modern Europe's greatest strength.

But we learned too late that we needed to invest some of the proceeds of economic growth to maintain the social conditions necessary for it to continue. Our failure to do so in good time let loose the massive tide of social tensions that swept through every country in Europe at the end of the 19<sup>th</sup> Century. As a consequence we spent the first half of the 20<sup>th</sup> Century deciding empirically whether communism or fascism was our preferred form of totalitarianism.

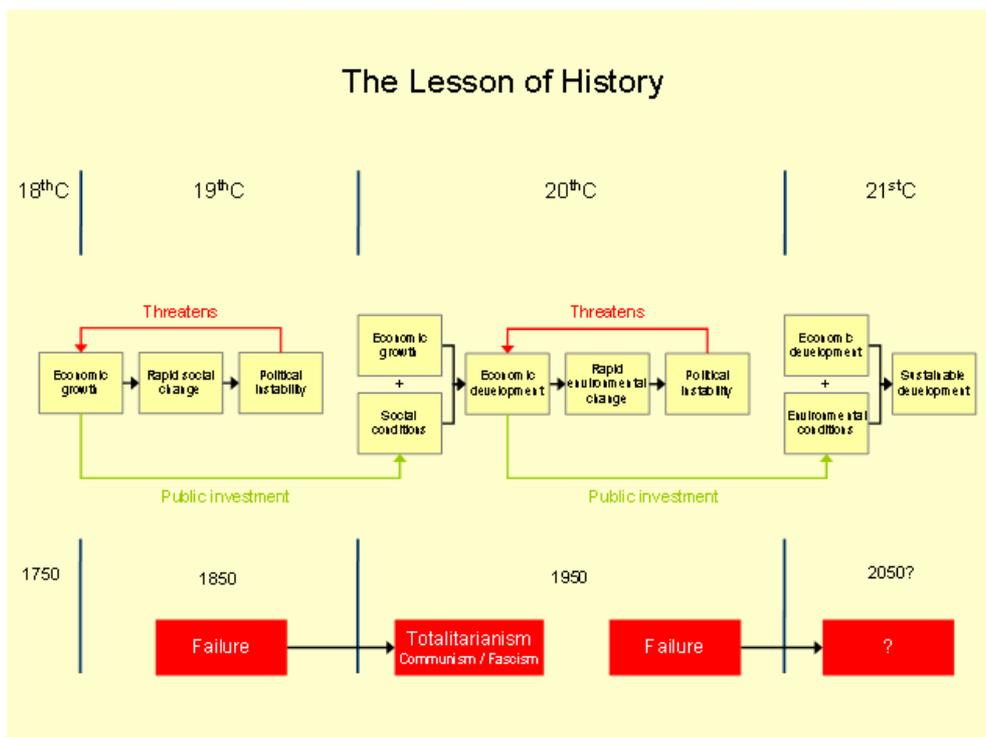
By the middle of the last century there was no longer any argument over the need for nations to invest in health, education and social security in order to underpin their economies. The purpose of public policy expanded from simply facilitating economic growth to promoting economic development, that is, growth plus welfare. The arguments over how much welfare to provide and how best to provide it will continue for a very long time but very few today believe that governments can ensure prosperity without such investment.

As population and prosperity accelerated in the aftermath of the Second World War the world entered an era of very rapid economic development. Within two decades a new debate began.

As air and water quality deteriorated, wastes accumulated, the deserts spread, cities sprawled and natural habitats and the plants and animals that lived in them began to disappear, doubts emerged as to whether the planet could continue to provide the resources necessary to maintain the momentum of development. Reinforced by the graphic pictures from space of a blue and white planet alone in the darkness of the universe these growing doubts led to the first of the great global conferences that punctuated the last decades of the 20<sup>th</sup> Century.

The Stockholm Conference on the Human Environment in 1972 defined for the first time an agenda for action to protect the planet's environment. Over the following thirty years it became increasingly clear that we now needed to invest some of the proceeds of our burgeoning economic development in maintaining the environmental conditions for that development or it would not occur. In other words, economic development must become sustainable development if prosperity and security were to be ensured in the 21<sup>st</sup> Century.

Let me recapitulate this argument.



We can see very clearly where we have got to in the current debate by looking at Britain's budget. In 2004, we spent some two hundred and forty five billion pounds on health, education and social security. We spent about fifty four billion pounds on internal and external security and about seven and a half billion pounds on the environment. In other words, we spent a great deal on maintaining the social conditions for prosperity and practically nothing on maintaining the environmental conditions.

I wonder if these are really the right priorities to ensure security and prosperity for our children as the 21<sup>st</sup> century progresses.

If we are to meet successfully the challenge of maintaining the environmental conditions for prosperity and security we must focus particular attention on the four resource pillars of prosperity. These are food security, water security, energy security and climate security. Together they provide a mutually reinforcing foundation on which the global economy rests.

The rising affluence of a growing population in an increasingly interdependent world is stressing all four pillars.

I will resist the temptation to drown you in gloomy data to illustrate my point. Let me simply leave you with one or two salient facts in each of the four areas:

- > Cereal consumption has doubled since 1970 and stockpiles relative to consumption are at their lowest levels ever;
- > 30% of the world's major fisheries now have yields that are at less than 10% of their original level. On current projection there will be a 100% collapse by 2050;
- > One third of the world's population currently experience water stress. Two thirds of china's cities, that is 400, already suffer water shortages;
- > More than 250 rivers worldwide are depleted. In many years the Nile, Yellow, Indus, Rio Grande, Colorado, Oxus and Murray rivers do not reach the sea. This year, as last, drought has struck the Amazon;
- > By 2030 world primary energy demand will be 80% greater than it was at the beginning of the century. Oil demand will be 116 million barrels per day compared to today's 84 million barrels a day;

- > Global average temperatures are rising by 0.2 degrees centigrade a decade. On current projections we will double the amount of carbon we add to the atmosphere each year by 2030.

Each of these pressures would be significant in its own right, but it is the nexus of interactions between them that pose the more serious problem. These are poorly understood, pay no respect to geographical or bureaucratic boundaries and will be very difficult to manage.

Our food security is hugely dependent on cheap energy to make the chemicals and pump the water necessary to maintain agricultural productivity, the transport to get the food to ever more urbanised consumers and to run the machinery to produce and process food. Without water for irrigation, far less land would be useful for food production, especially in the drylands where a great many of the world's poorest people live.

Nearly a third of the world's population live in areas suffering already from water stress. This creates an ever greater demand for energy to pump water from ever deeper aquifers. Maintaining energy security today means being able use fossil fuels for transport and electricity generation. But demand for those fossil fuels is driving the price upwards and the use of them is destabilising the climate. An unstable climate will exacerbate water and food stress because a warmer world makes dry areas drier and also lower crop yields.

These interactions mean that future political stability of China may depend on how well the U.S. manages its increasingly stressed water resources west of the Mississippi. Poor American water management leading to lower yields from the harvest in the U.S. can readily turn into large price rises for food in China.

In 2006, the global grain harvest was lower than demand, largely as a result of higher temperatures. Falling farm yields in China resulting from temperature rises and water shortages due to climate change will add more price pressure. As will the growing demand for grain to convert to ethanol in order to meet growing energy security anxieties. Any sustained conjunction of such factors could very quickly lead to political instability in China. But in our interdependent economy that is also our problem.

We share a dilemma with China and with the other rapidly emerging economies. We must all keep our economies growing in order to maintain social cohesion in Europe and basic political stability in China. But it is now increasingly clear that if our economies continue to grow as at present then we will degrade the pillars

of prosperity, in some cases to the point of collapse. Were that to happen it will be impossible to keep our economies growing anyway. In either case, social cohesion and political stability is threatened unless we can find better ways to use resources and put much more effort into maintaining the integrity of the pillars.

No issue more clearly illustrates that shared dilemma than climate change. It is certainly timely to take a closer look at this pillar of prosperity in the wake of the recent publication of the stern report. But is also an issue that vividly illustrates the changing nature of the landscape of risk and opportunity in which business leaders will need to operate successfully in the 21st century.

There is now a high degree of confidence in the basic science of climate change. We know by observation that global average temperatures have risen by about 0.70c in the last century. We also know by observation that the concentration of greenhouse gases in the atmosphere is now about 425 parts per million carbon dioxide equivalent<sup>1</sup> up from the pre-industrial 280 parts per million.

We know that this warming is already having an impact on ice sheets, glaciers, sea levels, and extreme weather events. We know enough about the mechanisms by which the long run translation of the carbon burden into temperature rises works to be able to predict with confidence that, even if we stopped any additional carbon entering the atmosphere today, we would still experience another 0.7°c rise in global average temperature.

So whatever we do, or do not do, we are committed to a rise in temperature of 1.40c. This is very close to the 2.0°c threshold that European environment ministers have said marks the boundary of dangerous climate change. Of course, we are not going to stop carbon emissions overnight so we would be prudent to plan for a world in which temperatures go above 2.0°c.

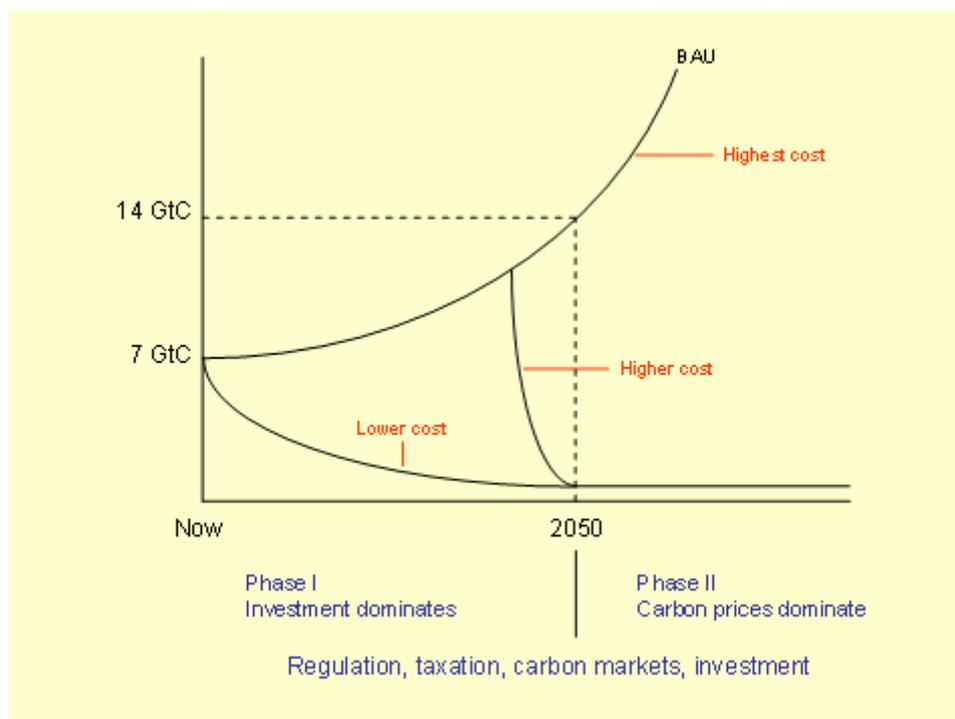
The Stern report is the most thorough and authoritative analysis of the economics of climate change yet to be conducted. Its core conclusions are very clear. Taking effective action on climate change would reduce global GDP by about 1% per year. Failing to take action would reduce it by between 5 – 20% - it would, in Stern's own words risk 'derailing the economy'.

---

<sup>1</sup> Carbon dioxide equivalent is the concentration of carbon dioxide itself (380PPM) plus the carbon dioxide equivalent of the concentration of the other anthropogenic greenhouse gases e.g. methane, nitrous oxide etc.

To avoid this risk, Stern concludes we must keep the eventual concentration of greenhouse gases in the atmosphere to between 500 and 550 parts per million carbon dioxide equivalent. This is no small task. As environment minister, Ian Pearson, recently pointed out, it means we have to get all of the carbon out of our energy system by about 2050 and then we must keep it out, effectively for ever.

Let me illustrate this prospect with a graph I call Stern on a page.



All four pillars of prosperity are coming under increasing stress as the rate of change in the global economy accelerates. Climate change stresses all the other stressors.

We will not ever be short of energy, but unless we invest – at least twenty trillion dollars by 2030 according to the international energy agency’s latest forecast – in the technologies to make that energy available, energy insecurity will increase.

On current plans most of that investment will make the climate problem much worse. Changing its technology trajectory so that it becomes carbon neutral is, however, a massive opportunity for those with the foresight to seize it.

But, a world in which climate change and growing food and water insecurity is intensifying social, economic and political instability is not one that will be

compellingly attractive to investors making the kind of long run investments that energy security requires.

As the stresses on the pillars of prosperity increase so the landscape of risk and opportunity through which business must progress alters. Some of these risks and opportunities will be familiar, others less so. Most companies in the FTSE top 100, or indeed, the top 250, are planning to still be in business by 2030, when some of these stresses will have moved from being chronic to being acute. Few are yet equipped to understand, interpret and manage their impacts.

There are two dimensions of risk that must be considered. The more familiar risks are the direct impacts of these stresses on markets and operations. They will largely appear as increased cost or lost revenues. Droughts and extreme weather events will interrupt operations causing lost production. Water stress will lead to higher charges for supply and more stringent wastewater treatment requirements. Competition for grain will increase prices. Rising water, food and energy prices will drive up wage demands.

These risks are, for the most part, forecastable and manageable, or at the very least insurable. Businesses have a wide array of tools for dealing with them and personnel with the skills and experience to use them. As always, for the better managed companies, there will also be opportunities for new technologies or products.

The second dimension of risk is policy risk. This is much less familiar ground for the business community. Maintaining the integrity of the four pillars of prosperity is, classically, a task for governments. Ensuring all forms of security is a first responsibility of governments. It is this that we pay our taxes for. Business traditionally relies on government to provide the stability necessary for investment.

The scale and urgency of these challenges is such that this may no longer be wise. It is not so much that we cannot identify solutions to the problems. Nor that we cannot afford them. At the moment anyway, all four pillars are capable of being renewed.

It is the politics that is the issue. These are all problems that fall under the banner of the hard politics of the environment. Effective action on anyone of them will generate many more losers than winners. There is a strong Mickawberish voice, which when it is not protecting its own economic or

ideological issue is simply in denial. Solutions require both vigorous international and inter-departmental coordination.

These are all deterrents to timely political leadership. The pillars of prosperity are public goods. They will not be reliably provided simply by the operation of markets. The most likely response to these challenges by governments will be first to paddle in the shallows of response - cosmetic actions that generate headlines but not much else.

When the problem gets much more pressing, governments will move into prevaricate mode. This can last for a very long time. It is essentially where we are now on climate change and water security. There will be much wringing of hands and talk of painful choices. New national or international legislation with ambitious aims will be announced, even introduced, but the process of passing it will be long and with each passing day the politically sharp edges will be blunted by the persistent winds of compromise.

Finally, when the damage to the pillars is so apparent it begins to cause public outrage, governments will panic. At that point they are most likely to implement the most costly measures to address a problem that by then may be beyond solution. This is not a scenario that will be good for business. At this point, the risk of highly disruptive regulatory or fiscal policy tools, with very short lead times for their implementation, is high.

Businesses are not well prepared to deal with these risks. On the whole they are much better at reacting to policy proposals from government than at thinking through the policy framework that would best allow government and business to work together to offer society solutions to the kind of systemic problems we have been discussing.

For the most part, today's business leaders possess neither the knowledge nor the skills to think strategically about the hard politics of the environment. They certainly do not have the time. Few, if any companies, have developed the internal processes to connect their conversations about these issues to their core business conversations.

The result is an inadvertent conspiracy of inaction. Governments understand the need to act decisively on these issues but are inhibited from doing so for fear of damaging the businesses on which the success of their economy depends.

Businesses, which often recognise the importance of these issues without fully understanding how they affect the future of their business, wait patiently for government to give a clear and consistent signal of what they expect from business.

Governments have the problems. Businesses nearly always have the solutions. This ought to be a marriage made in heaven. Instead it is a structurally dysfunctional relationship whose failures are bad for both parties and worse for the world as a whole.

Finding the ways to create a much better founded relationship between government and business, particularly with respect to maintaining the pillars of prosperity, is a key part of meeting the challenges of the 21<sup>st</sup> century.

Stability is a system condition for investment and therefore for business success. Business traditionally relies on government to maintain stability. In the 21<sup>st</sup> century, as the pillars of prosperity come under increasing stress, governments may find it increasingly difficult to play their assigned part.

I do not believe that we are fundamentally short of the resources, capital and technology to provide a higher standard of living for eight billion people. But we are woefully ill-prepared to put those resources, capital and technology together in ways that are sustainable.

The only resource we are truly short of is time. If we do not quickly build the more effective relationship between business and government that is central to maintaining the integrity of the resource pillars of prosperity then as the 21<sup>st</sup> century progresses we will find that governments are as increasingly unable to discharge their responsibility to their citizens as managements are to their shareholders.

