

THE PRINCE OF WALES'S

BUSINESS & THE ENVIRONMENT PROGRAMME Developed by the University of Cambridge Programme for Industry



Report and Reflections



The Prince of Wales's Business & the Environment Programme (BEP)

BEP is the premier executive learning programme on sustainable business. The aim of the Programme is to help organisations integrate the concepts of sustainable development into their business thinking and practice. Senior Executives' Seminars run four times a year in different parts of the world, and have helped over 1000 business leaders understand both the challenges and opportunities of sustainable development. The Programme's active alumni network comprises some of the most senior decision makers in business and civil society worldwide and through its activities provides further inspiration, encouragement, support and advice to those wishing to help their organisations take a lead on sustainability issues.

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Other SED session facilitators are listed at the end of the report alongside the Core Faculty see page 58.

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Introduction

If progress in society were measured purely in terms of economic growth (as many seem to think it is) then the global economy over the past 30 years has delivered a remarkable success story. Since 1970, the world gross national product (GNP) has more than doubled, and the average growth of around three percent per year seems set to continue.

But we need to ask the question as to whether this growth has been, to put it rather crudely, *smart growth* or *dumb growth*? *Smart growth* brings improved quality of life in a way that is socially equitable and environmentally sustainable. *Dumb growth* brings prosperity to some at the expense of the world's poor and the planet's life support systems.

So how does the global economy perform? Let's look at quality of life first. All the evidence from national quality of life

indicators such as the Index for Sustainable Economic Welfare and the Genuine Progress Indicator suggests that, in high income countries like the USA

"We need to ask the question: Has economic growth been smart growth or dumb growth?"

for every \$100 of growth in the world's income per person, just \$0.60 contributed to reducing poverty for those living on less than a dollar a day – which is 73 percent less than in the 1980s.

Growth Isn't Working report states that between 1990 and 2001,

The picture on the environmental impacts of growth is equally sobering. According the Millennium Ecosystem Assessment, conducted by 1,300 experts from 95 countries and released in 2005, approximately 60 percent of the ecosystem services that support life on Earth – such as fresh water, capture fisheries, air and water regulation, and the regulation of regional climate, natural hazards and pests – are being degraded or used unsustainably. Scientists warn that the harmful consequences of this degradation will grow significantly worse in the next 50 years.

So, has economic growth of the past decades been smart or dumb? The question is rhetorical. A more interesting and pressing question is what needs to happen to get us to switch from our obsession with dumb growth to a more sustainable path of smart growth? Clearly business has a crucial role to

> play, but it cannot act alone. Broader reforms – systemic changes – in the global economy and global markets are needed to

facilitate this transition. In other words, the rules of the game need to change if companies are to respond effectively to the challenge of smart growth.

This has been the consistent message by participants in the Business & the Environment Programme's Senior Executives' Seminars over the past ten years. And it was this challenge which led us to create the Sustainable Economy Dialogue a rolling dialogue with the Programme's delegates and alumni to discuss the nature of a sustainable economy, to examine

and the UK, there has been an increasing divergence between growth in income and growth in the quality of life, roughly since the 1970s. The latter has stagnated.

What about social equity? Has recent growth helped the world's poor? According to the 2005 UNDP *Human Development Report,* the poorest 40 percent of the world's population – 2.5 billion people, living on less than \$2 a day – account for just five percent of all global income. And seemingly, this trend is also in the wrong direction. The New Economics Foundation's 2006

failings of the current system, and to explore ways in which business might contribute solutions.

The Dialogue kicked off in 2003, and by April 2006 had been run 16¹ times, involving more than 400 people in five countries – including Austria, Kenya, South Africa, the UK and USA.

Participants were asked to respond to the following three questions in sequence:

- What is the fundamental goal or purpose of a good economy?
- Why do current economies fail to achieve this fundamental goal?
- What can business do to help eliminate these failings?

The results show a remarkable consensus about what a smart economy should be about – essentially, that a good economy delivers improved wellbeing, now and in the future, in a way that is socially equitable, environmentally sustainable and based on effective participation.

Failure to achieve these high-level objectives was ascribed to a variety of causes, including strategic issues such as a lack of shared purpose, values and short-termism, structural issues dealing with governance and incentives and operational issues in terms of what gets measured and costed. Underlying all of these was a concern about education and awareness. Finally, there was no shortage of ideas for how business might be part of the solution, ranging from proposals for improved leadership, the use of alternative metrics and lobbying for policy reforms, to embracing 'base of the pyramid' strategies in low income markets, adopting socially responsible investment and making step changes in eco-efficiency.

In addition to capturing the detailed findings, we have included two fascinating thought-pieces about what the results mean within the bigger picture of sustainability. Professor Jorgen Randers, a futures research specialist and co-author of the influential Limits to Growth study which challenged the wisdom of unchecked economic growth in the 1970s, critically reviews the findings in terms of prevailing sustainability debates and world trends. Professor Tom Gladwin, an expert in the application of systems thinking, then analyses the results from the perspective of the economy being a complex causal network, nested within society and nature.

From the outset our intention was that the process itself – and the insights gained by those who participated – was as important as the conclusions. And the overwhelming feedback has been that participants found the experience both stimulating and revealing. This report is presented as a platform for further engagement, debate and, ultimately, action. We hope that we will convince you not only that smart economic growth is needed, but also that it is possible.

Polly Courtice and Jonathon Porritt Co-Directors Business & the Environment Programme

Setting the Context: The Five Capitals Model

"In a sustainable society, we live off the

income rather than depleting the capital"

At the heart of the Sustainable Economy Dialogue (SED) process was a recognition that the dumb growth of the recent decades needs to be replaced with a much more sustainable development. This new direction must ensure a much less one-dimensional focus (on financial capital). It must seek balanced development taking into account various forum of capital.

The Five Capitals Model provides a useful means for conceptualising sustainable development. In terms of this

model, the crisis of sustainability is seen to arise from the fact that we are consuming our stocks of natural, human and social capital

faster than they are being produced. Unless this rate of consumption is effectively controlled, these essential stocks cannot be sustained over the long term. With this in mind, society should seek to identify and implement practices that either increase the stocks of these capital assets – by living off the income rather than depleting the capital – or (to a limited extent only) substitute one form of capital for another.

There are five types of sustainable capital from which we derive the goods and services that we need to improve the quality of our lives:

- Natural Capital refers to the natural resources (matter and energy) and processes that are required to produce and deliver goods and services. They include renewable and non-renewable resources, sinks that absorb, neutralise or recycle wastes, and processes such as climate regulation that maintain life. Natural capital covers such issues as freshwater availability, land use and biodiversity, oceans and fisheries, energy usage, climate and atmosphere, and pollution and wastes.
- Human Capital consists of people's health, knowledge, skills, motivation and capacity for relationships. All these things are needed for productive work, and the creation of a better quality of life. Human capital can be fostered through

improving opportunities for learning, creativity, stimulation and enhanced health. Human capital covers such issues as levels of

wealth and poverty, life expectancy and human health, hunger and food security, education, employment and housing.

 Social Capital concerns the institutions that help us maintain and develop human capital in partnership with others. It includes such institutions as families, communities, businesses, trade unions, schools and voluntary organisations. A critical component of social capital is the development of trust. Social capital covers such issues as levels of democracy and good governance, corporate accountability, human rights, gender equity and urbanisation.

- Manufactured Capital comprises material goods or fixed assets that contribute to the production process or the provision of services, rather than being part of the output itself. It includes, for example, tools, machinery, buildings and infrastructure. From a sustainability perspective, useful indicators of manufactured capital include levels of technology and innovation, the nature of the digital divide and current trends regarding the growth in transport and mobility.
- Financial Capital plays a critical role in our economy, enabling the other types of capital to be owned and traded, for example through shares, bonds or banknotes. Unlike the other types of capital, it has no intrinsic value itself, but is representative of natural, human, social or manufactured capital. Financial capital is the traditional primary measure the 'single bottom line' of business performance and success. Financial capital covers such issues as global economic growth, investment in developing countries, market access for developing countries, debt sustainability, socially responsible investment and micro-financing activities.

An overview of the Five Capitals Model² is given in Figure 1. The rest of this SED report shows how various of these elements of the five capitals interact as a dynamic system, and inform the ideal purpose of a good economy, the failings of the current economy and possible actions to move towards a sustainable economy.





Key Findings



Figure 2: Findings of the Sustainable Economy Dialogue Process

This chapter summarises the findings of the SED. More detailed information is presented in Appendix 2 and 3.

Question 1: Fundamental Goal What is the fundamental goal or purpose of a good economy?

The various SED sessions arrived at numerous formulations of the fundamental goal of a good economy. Typically a subgroup of 5 - 10 participants would agree on a formulation within a short hour of work. In some sessions the plenary group then managed to agree on a common 'aggregate' formulation, but often this was not attempted, and the session leader would then do so after the session.

Although there were a range of formulations and priorities, the following concepts appeared time and again in the various goal statements

Ten Goals of a Good Economy

The economy should be:	Focusing on:
1. Fulfilling	Wellbeing, quality of life
2. Inclusive	Sharing, global benefits
3. Farsighted	Consequences, future generations
4. Developing	Progress, improvement over time
5. Equitable	Fairness, even distribution
6. Sustainable	Nature, life support systems
7. Participatory	Engagement, stakeholder democracy
8. Innovative	Creativity, rewarding achievement
9. Diverse	Variety, equal opportunities
10. Accessible	Openness, providing opportunity

The list is tentatively sorted in descending order of emphasis, and the 'consensus answer' to SED Question 1 can be formulated as follows:

Purpose of a Good Economy (Consensus)

The fundamental goal or purpose of a good economy is to steadily improve the wellbeing of all people, now and in the future, with due regard to equity, within the constraints of nature, through the active engagement of all its participants.

Purpose of a Good Economy (Variations)

Despite the strong consensus on the purpose of a good economy, the following examples give a sense of the distinctive flavour of each of the 36 variants that were captured over the Dialogue process:

SED 3 (Maryland USA 2003)

The purpose of a good economy is to engage all of its participants in order to continually improve the quality of life for everyone, whilst preserving nature.

SED 5 (Nairobi Kenya 2004)

Group 3: To sustainably improve the quality of life beyond basic needs for all citizens, now and in the future through the creation of wealth, in harmony with the environment, while respecting cultural diversity.

SED 6 (Cambridge UK 2004)

The fundamental purpose of a good economy is to improve and sustain the quality of life for all, now and in the future, with due regard to equity and within the constraints of nature.

SED 9 (Salzburg Austria 2004)

Group 6: An open social market economy that provides for basic human needs and a better quality of life by way of a respect for human rights, open democratic government and equality of opportunity with due regard for natural system limits.

SED 12-16 (Austria, UK and South Africa 2005-2006)

These more recent workshops reached consensus around similar themes, yet each with their own distinctive perspective.

Question 2: Current Failings Why do current economies fail to achieve this fundamental goal?

Each subgroup in each SED session identified its own set of failings. These are the failings that the subgroup considered to be the main reasons why current economies do not achieve their fundamental goal. Interestingly, no subgroup expressed the view that current economies do (or are about to) achieve the fundamental goal.

The subgroups were asked to aggregate their failings under – at most – 10 headings, but did not always follow this request rigorously. Furthermore, some SED sessions combined the results of the subgroups into one master set of failings, while others left the original recommendations of their subgroups intact. In the latter case, the SED session leader combined these results into a single output for the session simply by including those failings that were mentioned most frequently by the subgroups.



Ten Failings of Current Economies

Failing	Description
1. Lack of education	There is a lack of education and awareness around the links between the economy and sustainability
2. Governance failings	Governments and institutions are ineffective in providing good governance and appropriate policies
3. Short-term focus	Political processes, economic pressures and financial markets prejudice against long-term thinking
4. Unfair distribution	The economy creates and maintains inequity in opportunity, power, wealth and wellbeing
5. Human weakness	Traits such as selfishness and greed are encouraged and exacerbated by the capitalist system
6. Inappropriate incentives	Market failure and protectionist interventions create incentives for unjust and unsustainable trade
7. Cost externalisation	Prices fail to capture social and environmental costs and therefore undervalue people and nature
8. Divided purpose	There is a lack of collective consensus on the long-term purpose or goals of a good economy
9. Unsuitable values	The values underlying the current economic system may be incompatible with sustainability
10. Misleading measures	Current economic measures are poor indicators of quality of life, social wellbeing and environmental integrity

Note: Other failings included weak leadership, external events, resource constraints, poor governance, economics focus and excessive consumption. See Appendix 2 for details.

Figure 3: Top Ten Failings of Current Economies

Failings of Current Economies (Variations)

Once again, it is useful to illustrate the variety of responses identified by the different Dialogue sessions by selecting a few examples:

SED 1 (Calcot Manor UK 2003)

Our present economy is failing because it: is too short-term in focus; does not sufficiently value nature; creates and maintains inequity; does not reflect the weighted interests of the people; embodies no common understanding or shared purpose; and does not properly prepare citizens to take wise (sustainable) decisions.

SED 4 (Cape Town SA 2004)

Current failings include: bad governance; no common purpose; inequity; inadequate economics; human imperfection; short-termism; no full costing; insufficient education; and inefficient labour markets.

SED 7 (London UK 2004)

Current failings include: unequal distribution; wrong economic model; lack of education and awareness; bad governance; failing in human nature; pressure on natural resources.

SED 10 (Maryland USA 2004)

Current failings include: corporate control of governmental decision making, lobbying; government and business corruption; ignorance or lack of education; inadequate global governance; short-termism, cost externalisation; self interest, greed, human nature; legacy, unequal starting points, unequal distribution of natural resources; prejudice; inadequate observance of human rights; and inadequate legal or property rights systems.

SED 12-16 (Austria, UK and South Africa 2005-2006)

Once again, these more recent workshops confirmed similar findings, yet with encouraging diversity.

Further details on the main failings are included in Appendix 2.

Question 3: Business Action What can business do to help eliminate these failings?

Having defined the fundamental goals and identified the current failings, the SED sessions went on to produce ideas for business action that could contribute to a good economy by addressing some of the failings. A summary of these ideas (several hundred in all) is presented below.

Business Actions for a Sustainable Economy

Broadly speaking, business can take action to promote a sustainable economy through its direct impacts – by aligning its management and operational systems with sustainability values and aspirations – and its indirect impacts – by influencing governments and partnering with civil society to deliver policies and programmes that promote sustainability outcomes.

Key Findings

Ten Business Actions for a Sustainable Economy

Theme	Action
1. Education	Promote sustainability literacy and awareness among company's stakeholders
2. Governance	Hold governments to account on sustainability through lobbying and partnerships
3. Long Termism	Educate politicians and financiers on the long- term nature of sustainability risks and returns
4. Equity	Promote diversity and equity at the corporate, community, national and international levels
5. Responsibility	Commit to an agenda of accountability, transparency and social and environmental responsibility
6. Incentives	Pressure governments to create a level playing field for fair and sustainable international trade
7. Externalities	Incorporate full cost accounting into long-term investment decisions and begin to report on externalities
8. Purpose	Engage in dialogue and partnership processes to create a shared vision for a sustainable economy
9. Values	Embed values consistent with a sustainability approach into the company's culture and operations
10. Measures	Measure and report on the indicators of governance, social, ethical and environmental performance

Further details on possible business actions are included in Appendix 3.

In the next section of this report, Professor Jorgen Randers reflects on the findings of the SED process.

Reflections on the Outcome

Professor Jorgen Randers, lead SED process facilitator and member of the Business & the Environment Programme Core Faculty

Jorgen holds a PhD in management from the Massachusetts Institute of Technology. He specialises in policy analysis, futures research and environmental issues. Jorgen has served as president of the Norwegian School of Management from 1981-89; worked in Norwegian business from 1989-93; and served as Deputy Director General of WWF International in Switzerland from 1994–99. Currently Jorgen is a professor at the Norwegian School of Management, where he teaches scenario analysis and corporate responsibility. He serves on a number of corporate boards in Norway and abroad, including the 'sustainability councils' boards of British Telecom and the City of Rotherham. He has co-written several books, including the well-known *The Limits to Growth* (1972) and *Limits to Growth – The 30 Year Update* (2004). The results of the SED represent one perspective on the global challenge at the beginning of the 21st century, namely a business perspective on how to make the modern economy more helpful in achieving the fundamental goals of society. Over the last several decades, many similar outlooks have been produced by different groups worrying about the long-term future of humanity. Perhaps most famous was the Club of Rome's musings over the feasibility of unending economic growth on a finite planet in 1972, and The Brundtland Commission's effort in 1987 to push sustainable development as 'the' tool to reduce world problems of poverty and environmental degradation. More recently in 1997 the World Business Council for Sustainable Development

produced its three famous scenarios for the corporate environment toward 2050. And many nations and communities have produced their Agenda 21 reports: planning for a more

"These failings have one thing in common: they are deeply embedded in the structure of modern society"

when provided with a ready made set of fundamental goals, or a collection of failings pre-selected by someone else. Real engagement was only achieved when participants took the time to go through all three SED questions. There proved to be no direct route to a fruitful discussion on good ideas for future business action.

early SEDs that the participants needed to partake in the whole

process in order to enjoy it fully. They engaged much less fully

Having completed 16 sessions of the SED, it is clear that there is a surprising degree of agreement among corporate executives about the fundamental goal of a good economy. Of course

> there are differences, for instance a higher attention to corruption in areas where this corruption is widespread, and more emphasis on entrepreneurship in fledgling economies. But still the similarities

outnumber the differences. There is also widespread, albeit somewhat less consistent, agreement on what keeps humanity from attaining the fundamental goal of a good economy. Participants identified 36 major failings, but 10-15 were consistently prioritised. These failings have one thing in common: they are deeply embedded in the structure of modern society. It will take more than business action to resolve issues like greed, corruption, short-termism and global inequity.

sustainable future for their section of the planet. These studies all had less impact than desired, but they all contributed to a higher awareness about the future challenges of humanity.

The SED design certainly helped increase awareness, since it had the special attribute of involving a large number of business leaders in the generation of the central content of the study. The almost unanimous feedback was that the business people greatly valued the opportunity to take a broad look at the ultimate purpose of an economy, and at potential means to improve the way it functions. Interestingly, we learned from the But there is a lot business can do, and as we have seen, the participants offered a rich palate of ideas of business actions that could help to address current failings.

The fact that the SED arrived at a relatively convergent set of views, in spite of drawing on participants from many

parts of the world, is not surprising given that most were well-educated, middle income, business managers (with a small minority of NGO and government representatives). Nonetheless, the results demonstrate that there is a lot of common ground across cultural and national boundaries.

Fundamental goal

As we have seen, the fundamental goal of a good economy identified by the SED contains no real surprises. The only surprise is the high degree of alignment and consensus among business people from Europe, North America and Southern Africa. Which perhaps shouldn't be a surprise given the increasingly agreed global values within the business sector of the world.

Interestingly, the consensus goal emerging from the SED

does not deviate significantly in ambition from the standard definition of 'sustainable development', for instance the one provided by the Brundtland Commission in 1987 (page 43): Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

> But the SED consensus goal is more concrete in its specification of which detailed values humanity should seek to sustain into the future.

And the SED result is surprisingly similar

to the goal promoted by the American architect and systems thinker William McDonough in 2003:

Our goal is a delightfully diverse, safe, healthy and just world. With clean water, clean air, clean soil and clean power – economically, equitably, ecologically and elegantly enjoyed.

Interestingly, McDonough highlights diversity, which was less frequently mentioned in the SED.

"The consensus goal does not deviate substantially in ambition from the definition of sustainable development"

Main failings

There is much more dynamite in the failings identified by the SED than in the fundamental goal. Taken together, the highestranking failings constitute a fairly fundamental attack on the current world order. It is not certain that the participants truly appreciated the fundamental change that would be necessary if these failings were to be eliminated; or if they did, whether they would feel free to express their views freely to colleagues inside their organisations.

Furthermore, the ten main failings selected by the SED are not necessarily the only, or even the real forces keeping society

from attaining the fundamental goal of a sustainable economy. The list of ten failings was compiled by the simple combination of output from the SED sessions, and may well include biases and omissions. Still, the list of failings

"There is dynamite in the failings identified view of the students through a by the SED. Taken together, they constitute a fairly fundamental attack on the current world order"

is of substantial interest, as it reveals what educated business people currently believe is holding back societal progress.

One surprise rests with what is missing from the list. It is noteworthy that the SED participants did not conclude that a lack of scientific information is hampering the resolution of world challenges. Interestingly, the participants thought that lack of awareness of scientific knowledge in the public was of much greater concern. Secondly it is interesting to note how rarely topical issues like terrorism, high oil prices, climate change and religious strife were cited as fundamental problems, despite the huge attention placed on these concerns in the media.

One explanation is that the participants were attempting to dig beneath the surface of these issues, to something more akin to root causes and systemic pressures.

This lack of worry about 'science' indicates that SED participants believe that the scientific community holds, or can rapidly obtain, sufficient information to ensure that lack of knowledge would never become a bottleneck in the progress towards sustainable development. At the same time the participants generally seem to believe that too little of the available knowledge is being communicated to the public, or enters into the educational system (where, according to modern principles, science should not be taught in an authoritarian manner,

> but be blended into the world participatory approach).

It is equally remarkable that 'limited natural resources' and other failings related to the

external physical world, did not make it to the top ten failings. The grim fact of the finiteness of fossil fuel resources and of the absorptive capacity for greenhouse gases are not seen as prime reasons why current economies do not achieve their fundamental goals. The reasoning may be that resource constraints have not limited economic growth during the 1900s, and thus might not be expected to do so in the foreseeable future. Or there may be a fundamental belief that future scarcity will be preceded by price increases, which in turn will trigger sufficient technological advance to solve the problem in time. This at least would be consistent with the lack of concern about sufficient science.

This low level of emphasis on science and natural resources as constraints reinforces the sense that the participants believe the main obstacles lie in the political arena. They see the current inability to move towards the fundamental goal as an organisational challenge in the broadest sense. It is not seen as caused by lack of resources or knowledge.

In this context it is noteworthy that the possible failing 'excessive obsession with growth' did not emerge as important. Actually it did not emerge as a suggestion at all. There may be

several reasons for this. One may be that the participating business leaders actually do not see growth as the root cause of several of the other failings that they highlight.

"SED participants believe that the failings are mainly human and solvable through human efforts"

Another is that they may see unbridled growth as a problem, but view it as an unchangeable fact of life – closely linked to (and a consequence of?) the frequently mentioned human imperfections of greed and self-interest. The term 'overconsumption' occurred a few times, but not often enough to make this failing move much from the lowest priority. A final observation is that very few business leaders viewed the (internal) governance of the business sector as a main failing. There were arguments that poor incentive systems encourage businesses and their leaders to move in non-sustainable directions, and there was some mention that the vested interest of business is a problem, but there was no fundamental critique of the capitalist model. This is possibly because of a lack of a better alternative, supported by an ingrained business scepticism towards governmental interference (i.e. collective solutions). Only a few viewed 'excessive competition both

between firms and individuals' as a central failing.

Indications that the fundamental goal is unachievable did not feature

highly. Failings like 'system inertia is unstoppable', 'global problem too big to manage', 'natural and external forces could overwhelm us', 'the future is unknowable, so wait and see' did not find much support. Thus, in summary, the participants in the SED basically appear to believe that the failings are mainly human and solvable through human efforts – with particular efforts required in the area of global organisation.

Business Action

In this vein, participants went on to propose many ideas for business action. Some ideas were mentioned infrequently, and others were raised only as possibilities, rather than definite solutions. It is also worth noting that numerous ideas were

presented to reduce failings that were not given high priority when answering SED Question 2. Fewer ideas emerged on how to solve some of the thornier failings. Given that many of the failings are so deeply embedded in the structure of modern

society, they are unlikely to be resolved unless through the most concerted process of transformational change. All change, however, begins with the actions of individuals, often small numbers of people, with substantial levels of passion and commitment.

Causes and Effects

Another way to review the SED findings is to place them within the closely knit web of causes and effects that makes up the global economy, as illustrated in Figure 4. The central self-reinforcing loop represents the fact that 'higher GDP leads to higher investment, which leads to even higher GDP' but a growing GDP has other effects: on energy and resource use, on service availability and the level of ecological damage. This illustrates the first systems conclusion: any action has multiple effects. The intended effect of this GDP-investment loop is to increase disposable income and the level of education,

"All change begins with the actions of individuals – often small numbers of people – with substantial levels of passion and commitment" health and awareness. But there are also unintended effects, such as the concomitant increase in humanity's ecological footprint, which (if not addressed and'repaired') will ultimately reduce the quality of the environment.

The result will be a downward pressure on the quality of life, counteracting and possibly overwhelming the positive effects of higher disposable income. This leads to a second systems conclusion: the root cause of environmental damage cannot be completely eliminated through increases in eco-efficiency. Something has to be done to regulate ever-increasing volumes. It can be hoped that in the long run higher levels of education and awareness will lead to broad acceptance of the benefits of a stable ecological footprint and higher levels of equity – benefits that are particularly important when living on a finite planet.



Figure 4: Dynamics of The Economy: Cause and Effect Relationships

The web of causal links in Figure 4 finally illustrates a third systems conclusion: the emergence of a solution is often significantly delayed relative to the problem it is intended to solve. For a long while (decades?) tradition and the continuation of past trends tends to strengthen the problem faster than it strengthens the solution.

"To get global society (including the economy) onto a self-reinforcing positive track towards sustainability, the whole world system needs to be redirected into a different behaviour mode"

This could happen either by discovering a sensitive leverage point (e.g. planned increases in energy prices to trigger necessary R&D which will often meet solid democratic resistance) or through simultaneous parallel changes in a number of sectors (e.g. changes in consumer preferences away from gas guzzling cars, accompanied by changes in zoning regulations to support more uniform geographical blends of jobs and homes).

Illustrated System Conditions

- 1. Most actions have multiple effects
- 2. The root cause of environmental damage cannot be completely eliminated through increases in eco-efficiency
- 3. Solutions are often significantly delayed relative to the problem they are intended to solve.

In short, solving the world problematique is not a question of identifying a simple set of business actions that will remove the obstacles to a good economy. What is needed is to take a number of ideas, and combine them into a 'Work Plan for a Sustainable Economy'. The real challenge is to arrive at a plan which is acceptable to the majority – before crisis strikes.

SED Failings as a Complex Causal System

Professor Tom Gladwin, member of the Business & the Environment Programme Core Faculty

Tom Gladwin is the Max McGraw Professor of Sustainable Enterprise, jointly in the Ross Business School and School of Natural Resources & Environment, at the University of Michigan. He is the Co-Director of the University's new Sustainable Mobility and Accessibility Research and Transformation (SMART) Project, working with the US auto industry. Tom is also the Director of the Erb Institute for Global Sustainable Enterprise, which promotes innovative and transdisciplinary research and education on ecologically and socially sustainable business. He received a Faculty Pioneer Award for Lifetime Achievement in the Beyond Grey Pinstripes 2003 report, compiled by the Aspen Institute and the World Resources Institute.

Introduction

For convenience, the Sustainable Economy Dialogue (SED) captured the consensus failings (i.e. SED participants' responses to Question 2: 'Why do current economies fail to achieve this fundamental goal?') as a vote-prioritised list of separate factors.

In reality, of course, the main failings identified are highly interdependent:

- There is reciprocal causality between the failings and unsustainability
- The power or influence of different failings varies over time and space
- The impacts of the failings are typically non-linear (outputs are not proportional to inputs)
- Significant time and feedback delays characterise most of the relationships

With the assistance of BEP delegates participating in 'systems thinking' workshops at recent BEP Seminars, a

cross-impact analysis was conducted in order to construct a crude model of how the top 16 SED failings appear to relate to each other causally. A cross-impact approach shifts explanation from a *correlational* (or 'laundry list') view of how things seem to work to an *operational* one. The methodology requires the analyst to ask: 'If variable A increases, what happens to variable B and for what reasons, in what direction, through what processes, with what strength and at what speed?' This methodology is highly subjective and qualitative. It is typically employed to determine causal feedback loops worthy of further investigation, via more detailed and quantitative modelling. The value of the approach lies in forcing the analyst to show how behaviour or performance in a complex system may actually be generated or produced.

Figure 5 provides a schematic summary of the possible workings of 91 strong and direct causal relationships that BEP delegates suggested may be working interdependently and dynamically to produce unsustainable human economies.

The SED cross-impact results indicate that the delegates situated much of the blame for unsustainable economies on the human mind (i.e. cognitive, perceptual, emotional, values-based) and on institutions (i.e. goals, structures), the logical precursors

"SED delegates placed much of the blame for unsustainable economies on the human mind and on institutions"

of unsustainable behaviours and conditions.

Of the top ten failings, the five that may be most influential in shaping the fate of the entire system were

deemed by the analysis to include poor or, more precisely, undemocratic governance (considered the most frequent and possibly most influential cause or effect at work in the entire system), followed by socio-economic inequality, cost/risk externalisation, self-interest/egocentrism and illiteracy/unawareness. The last four variables have about equal causal power via their appraised connectedness.



Whilst this is a crude starting point, we can already suggest that deep and long-lasting changes towards sustainability will most likely necessitate transformations in all five of these most influential variables, which serve to control much of the feedback behaviour at work in the whole system. Attempted 'solutions' that ignore these 'big five' system controllers are likely to be superficial and short-lived.³

Mental failings

The cross-impact assessment indicates that mental failings appear to be very tightly interconnected: self-interest,

short-termism, materialism and illiteracy support and feed off each other to create deeply entrenched 'unsustainable minds'. Mental predispositions are deeply programmed and are

human development.

"Corporate and government leaders, handsomely rewarded by the 'rules of the game', which bring greater success to the already successful, have very little motivation to change these rules"

deeply programmed and are not easily or quickly changed. They serve to pit short-term individual rationality (of firms, consumers, citizens, governments, etc.) against long-term collective rationality, perhaps the core dilemma we face in pursuing sustainable

Minds and institutions

The red arrow in Figure 5 flowing from MINDS to INSTITUTIONS indicates seven strong and direct causal relationships. For example, citizen and consumer illiteracy allows vested interests to capture the political process, and to garner massive subsidies and tax breaks that perversely work against sustainability. Materialism and short-termism combine to shape performance metrics that emphasise getting bigger (as fast as possible) rather than better (at the right pace). We end up with an economic system that rewards actors for doing destructive things and punishes them for doing the right things.

Just below this flow is a smaller one, running from INSTITUTIONS to MINDS, suggesting that institutions (which are largely shaped by human thinking and valuing) feed back to reinforce the unsustainable thinking

that allows corrupt or perverse institutional power and incentive structures to strengthen their grip on the economy. For example, reward systems that emphasise expansionist metrics reinforce a conception of the good life that is materialist and novelty- or status-seeking. Lack of consensus on society's purpose (i.e. whether this purpose should be to advance the common good) further justifies the rationality of maximising self-interest in the short or near term.

Behaviours

The causal mapping suggests strong causal flows running from both MINDS and INSTITUTIONS to BEHAVIOURS. Chasing the dream of greater consumption to satisfy wants, and the concomitant growth in physical (energy and material) throughput, appears to be what human minds have been programmed to pursue and what institutions are designed to encourage. The externalisation of environmental and social costs and risks, especially onto generations distant in time or space – perhaps the fundamental behavioural cause of unsustainability – is supported, facilitated or rewarded by virtually every mental and institutional variable on the SED list of main failings.

Why internalise in order to arrive at 'prices that tell the truth' when consumerist minds don't want (and captured governments don't demand) such painful truth and higher prices? Corporate and government leaders, handsomely rewarded by the 'rules of the game', which bring greater success to the already successful, have very little motivation to change these rules (indicated in

the diagram by very little causal connectivity flowing from behaviours back to MINDS or INSTITUTIONS).

The causal mapping suggests that

socio/economic/natural CONDITIONS are mainly shaped by BEHAVIOURS, along with some direct and considerable indirect support from MINDS and INSTITUTIONS. Over-consumption, physical growth exceeding natural limits, and the capacity to shift costs onto distant humans and the rest of nature directly explain much ecological destruction. However, many other facilitating factors are associated with this ultimate consequence of the whole system, such as illiteracy about the 'life-support services' of nature, subsidies encouraging destruction, metrics that ignore destruction or perversely count it as progress, and undemocratic governance that fails to prevent the destruction.

Socio-economic inequality increases as the beneficiaries of the system are able to externalise the costs of their behaviours onto less powerful or more distant peoples. But inequality is also greatly facilitated by mental discounting, selfishness, neglect of the common good, and expansionist metrics of societal success that downplay matters of justice.

Feedback on the system's adverse consequences

The causal mapping suggests that ecological destruction and instability, motivated by insecurity/inequality, feed back to alter MINDS, INSTITUTIONS and BEHAVIOURS, but (perhaps typically) only with very long time lags. Feedback on adverse consequences is variously delayed, discounted, diluted, distorted and ignored.

"The system's informational structure seems to encourage actors to deny unpleasant or inconvenient information"

The system's informational structure seems to encourage actors to deny unpleasant or inconvenient information.

Even when signs of ecological

scarcity or social instability are acknowledged, the system appears to encourage those who benefit disproportionately from the status quo to perversely ramp up their behaviours, further increasing scarcity or instability (e.g. invading foreign countries to secure access to climate-changing fossil fuels, extracting natural resources from ever more distant pristine ecological areas, blaming the victims of the system and reducing aid or welfare to them, converting communities and entire nations into 'guarded compounds' to reduce threats of terrorism).

These 'denial and flight' behaviours address only the symptoms of ecological and social unsustainability, not the underlying causes.

Why we need a whole systems perspective

In the very tentative causal model presented here, BEHAVIOURS and CONDITIONS appear to derive largely from MINDS (mindsets) and INSTITUTIONS. This suggests that interventions focusing only on changing behaviours (e.g. 'We'll solve this through more enlightened leaders or reduced

advertising') or on altering conditions (e.g. 'We'll solve this though greater redistribution or more national parks') are likely to have limited impact or

"The SED results suggest that unless we change minds, we are unlikely to significantly change much of anything else"

value. The more elemental and powerful motivational mental and institutional programming will tend to work as hard as possible to resist, reduce and negate 'deviant outcomes' that are incompatible with the explicit or implicit intentions of the system's deep-seated driving forces.

We can also suggest that intervening to change institutions (e.g. 'We'll solve this by substituting sustainability metrics for growth metrics, or by eliminating corporate contributions to politicians') may also have limited transformational power if the logic of growth as the answer to all problems, and the acceptance of an elite plutocracy as the inevitable form of societal governance, remain intact. Those who believe that growth-oriented plutocracy can be easily undone through simple changes in metrics or rules are most likely fooling themselves. Even attempts to change parts of thinking alone (e.g. 'We'll solve this by making people more literate and aware') are doomed if they are disconnected from genuine changes in values and ethics.

All of this is not to deny the positive necessity and potential for restructuring institutions, modifying behaviours, or ameliorating social and ecological conditions. Rather, it emphasises the need for a 'whole systems' perspective that gives holistic and special attention to the underlying human motivational, cognitive, perceptual, ethical, emotional and spiritual factors that ultimately shape our institutions, behaviours and living conditions. The

> SED results suggest that unless we change minds, we are unlikely to significantly change much of anything else.

The whole systems perspective tells us that 'there is no blame'. Our unsustainable economy is the result of countless 'boundedly' rational decisions taken over many centuries by actors caught up in systems that have made it almost impossible to act responsibly to all the affected stakeholders. The *system* encourages us to externalise costs onto nature and communities. It motivates us to pursue endless growth on this finite planet, and it tolerates the concentration of wealth and power.

The dilemma of free-market capitalism

The SED has produced a profound critique of free-market capitalism, which has become the central organising principle, consuming passion and dominant imperative of modern existence. The SED results implicitly acknowledge that this form of capitalism was simply not designed to provide satisfying lives for all, within the means of nature. That was not (and still is not) its aim or logic or justification. Thus, it should not be criticised for failing to produce what it was not intended to produce. We have collectively and systemically invented and adopted free-market capitalism to achieve efficient resource allocation according to price signals from people with spending power – not to ensure just distribution or an optimal scale relative to natural carrying capacity.

"The SED has produced a profound critique of free-market capitalism, which has become the central organising principle, consuming passion and dominant imperative of modern existence" Our form of capitalism was intentionally and/or unintentionally designed to:

- Boost returns by externalising costs
- Keep wages and prices low
- Maximise the logic of accumulation
- Exploit the desire for conspicuous consumption
- Generate the greatest wealth accumulation for the least possible investment
- Dominate politics in order to reduce competition, uncertainty, redistribution and restriction
- Maximise the dynamic and creative recycling of capital
- Commodify as much of life as possible
- Redirect wealth and power from the many to the few, and from the future to the present
- Remain indifferent to the intangibles of life that have the greatest meaning
- Ensure freedom from responsibility

This is a strong assertion, and surely worthy of much debate. Yet it is not a new discovery. We are still caught up in the dilemma described by John Maynard Keynes many years ago: '[Capitalism] is not a success. It is not intelligent, it is not beautiful, it is not just, it is not virtuous – and it doesn't deliver the goods. In short, we dislike it, and we are beginning to despise it. But when we wonder what to put in its place, we are extremely perplexed.'

The 'folk wisdom' of systems theory

Coping with perplexity, complexity and the challenge of sustainability is the central challenge of our time. We must be extraordinarily humble in offering any wisdom concerning how to transform what is possibly the largest, most self-reinforcing, and most seductive and addictive system ever invented.

As we collectively approach this task, the 'folk wisdom' of systems thinking tells us that inertia, momentum and rigidity in the unsustainable economic system are huge forces. Thus, expect interventions to be delayed, diluted and defeated by the

"We must be extraordinarily humble in offering any wisdom concerning how to transform what is possibly the largest, most self-reinforcing, and most seductive and addictive system ever invented"

may differ from its short-run response. High-leverage interventions may thus cause worse-before-it-gets-better behaviour, whilst low-leverage interventions may generate transitory improvements, only to be followed by a deepening of the original problem. With a bit of luck, small interventions may create tipping points that induce large-scale cascading changes. Slowing or weakening the positive feedback loops that drive a huge self-reinforcing system typically requires a mix of

> informational, social and institutional interventions. Transformational change is unlikely to come from within the current system; exogenous shocks may be necessary.

> We need to concentrate on fostering the adaptive capacities of the system.

d interventions.There are no optimal solutions or best system designs, so we
must anticipate surprise and dynamic evolution. This dose of
humility, when confronting the most daunting transformational
challenge confronting humanity, may seem disheartening
and disempowering. We hope, however, that by emphasising
the necessity for systemic wisdom we may all be a bit wiser,
smarter and more effective in intervening to the best of our
abilities to ensure a sustainable human future.

system's defensive responses to attempted interventions. Intuitively obvious solutions may do more harm than good. High-leverage policies will be hard to discern unless we truly understand the (typically, small number of) critical or controlling processes that shape the dynamics of the whole system, which the appraisal above suggests lie above all in the realm of mental models.There are no simple solutions. Substantive change is rarely incremental or linear. Time delays in feedback imply that a system's long-run response to an intervention

What the SED Means for the Future

As will now be abundantly clear from this SED report, sustainability and capitalism do not automatically make natural bedfellows. *Sustainability* is all about the long-term, about working within limits, about making more from less, about accommodation with others to secure equilibrium – and it demands a deep and often disconcerting re-engagement with the natural world. *Contemporary capitalism* responds to the shortest of short-terms, abominates the very notion of limits, celebrates excess, accepts that its 'invisible hand' will end up creating as many losers as winners – and has no real interest in the natural world other than as a dumping ground and a store of raw materials. However, the bipolar challenges of, on the one hand, the biophysical limits to growth and, on the other, of the profound damage being done to the human spirit through the pursuit of unbridled materialism, will inevitably compel a profound transformation of contemporary capitalism – and sooner rather than later if we want to avoid dramatic social and economic disruption. There is, therefore, a case to be made for a rapid transition to a very different variant of capitalism: *capitalism as if the world matters*.

That means working with the grain of markets and free choice, not against it. It means working with capitalism as the only over-arching system capable of achieving any kind of reconciliation between ecological sustainability and social justice on the one hand, and the pursuit of prosperity and personal wellbeing on the other.

That said, today's particular model of capitalism is clearly incapable of delivering that kind of reconciliation, dependent as it is on the accelerating liquidation of the natural capital on

This notion of 'capitalism as if the world matters' is driven by a reform agenda, however radical it may appear to some, not a revolutionary agenda. For all that it's a compromise, profound and urgent transformation of the

"Capitalism as if the world matters is an evolved, intelligent and elegant form of capitalism that puts the Earth at its very centre (as our one and only world) and ensures that all people are its beneficiaries in recognition of our interdependence on each other and on the Earth itself"

worst dysfunctionalities of contemporary capitalism must therefore constitute a more realistic strategy than urging people to take to some anti-capitalist barricade.

It must also do a lot more than threatening people with yet more ecological doom and gloom. The necessary changes have also to be seen as desirable changes, good for people, their health, their quality of life – and not just good for 'the environment' or for the prospects of future generations. This is a 'here and now' agenda, as well as an agenda for tomorrow. which we depend, and on worsening divides between the rich and the poor the world over.

At its heart, therefore, sustainable development comes right down to one all important challenge:

is it possible to conceptualise and then operationalise an alternative model of capitalism? One that allows for the sustainable management of all the different capital assets we rely on (financial, manufactured, social, human and natural), so that the yield from those different assets, sustains us now as well as in the future.

The case for sustainable development must be reframed if that is to happen. It must be as much about new opportunities for responsible wealth creation as about outlawing irresponsible wealth creation; it must draw on a core of ideas and values that speaks directly to people's desire for a higher quality of life, emphasising fairness, enlightened self-interest and personal wellbeing of a different kind. It is only this combination (sustainable development seen as answering the unavoidable challenge of living within natural limits, providing unprecedented opportunities for responsible and innovative wealth creators, and offering people a more just, It is only sustainable development that can provide both the intellectual foundations and the operational pragmatism upon which to base such a transformation. This is why sustainable development remains the only seriously'big idea' that can bear

balanced and rewarding way of life) which is likely to provide any serious political alternative to today's economic and political orthodoxy.

"Sustainable development remains the only seriously 'big idea'. It is only sustainable development that can provide both the intellectual foundations and the operational pragmatism upon which to base the required transformation"

the weight of that challenge, and why the core values that underpin sustainable development – interdependence, empathy, equity, personal responsibility and intergenerational justice – are the only foundation

The politics of sustainability

makes change necessary: we literally don't have any choice unless we want to see the natural world collapse around us, and with it our dreams of a better world for humankind. The politics of *wellbeing* makes change desirable: we really do have a choice in finding better ways of improving people's lives than those we are currently relying upon. Responding to both those challenges will generate extraordinary opportunities for the wealth creators of the future. When something is both necessary and desirable, and can be pitched to demanding electorates in terms of both *opportunity and progress*, then it becomes politically viable – and that's the threshold that I believe we have now, at long last, reached. upon which any viable vision of a better world can possibly be constructed.

All things considered, what's the alternative anyway? If not *genuinely* sustainable development, then what? And if not now, when?

Jonathon Porritt

Co-Director, Business & the Environment Programme, Founder Director, Forum for the Future

Based on extracts from 'Capitalism as if the World Matters' by Jonathon Porritt, Earthscan 2005

Appendices

Appendix 1

Sustainable Economy Dialogue sessions – When and where

The dialogue was completed at the occasions shown below

SED 1:

7 July 2003	Pilot workshop, Calcot Manor, Gloucestershire, UK	34 alumni
SED 2:		
16-19 Sept 2003	BEP Seminar, Salzburg, Austria	39 delegates
SED 3:		
11-13 Oct 2003	BEP Seminar, Wye River, Maryland, USA	37 delegates
SED 4:		
3-5 Feb 2004	BEP Seminar, Cape Town, South Africa	45 delegates
SED 5:		
1-2 April 2004	BEP Seminar, Cambridge, UK	39 delegates
SED 6:		
27-29 April 2004	Mini-BEP Seminar, Nairobi, Kenya	22 delegates
SED 7:		
4-5 May 2004	Session for the Sustainability Learning Networks Programme, London, UK	34 delegates
SED 8:		
29-30 July 2004	BEP Alumni Workshop, London, UK	26 alumni

SED 9:		
7-10 Sept 2004	BEP Seminar, Salzburg, Austria	41 delegates
SED 10:		
20-21 Sept 2004	BEP Alumni Workshop,	22 alumni
	London, UK	
SED 11:		
19-22 Oct 2004	BEP Seminar, Wye River,	36 delegates
	Maryland, USA	
SED 12:		
12-15 April 2005	BEP Seminar, Cape Town,	34 delegates
	South Africa	
SED 13:		
12-15 April 2005	BEP Seminar, Cambridge, UK	43 delegates
SED 14:		
3-4 May,	SLN Seminar, Cambridge, UK	30 delegates
8-10 June &		
25-27 Sept 2005		
SED 15:		
13-16 Sept 2005	BEP Seminar, Salzburg, Austria	31 delegates
SED 16:		
28-31 March 2006	BEP Seminar, Cambridge, UK	49 delegates

Appendix 2

Summary details on the main failings of the current economy

Below follows a summary listing of the numerous expressions used by participants to describe the main failings of the current economic system.

1. Lack of education

Inadequate educational focus on the challenges and opportunities of sustainable development; limited understanding of sustainability issues by the public; misleading or limited media coverage of sustainability; unwillingness to act on accepted knowledge; insufficient knowledge for good decision-making; sustainable development is boring or 'uncool'; need special education focus on children and consumers; no coherent discussion in schools or media; poor development of human capital.

2. Governance failings

Corrupt, dishonest, unethical, unbalanced, irresponsible or ineffective government – at micro and macro levels; illegitimate or unresponsive institutions that do not further the interests of the 'average' citizen; unrepresentative institutions, incapable of forming public-private partnerships; failure to generate solidarity and consensus among diverse interests; institutions that reinforce the disconnect between market prices and true costs; too much or too little regulation; systems that do not learn, or which are insensitive to feedback.

3. Short-term focus

Short planning horizon in politics; focus on next quarter in business; high discount rates (which means that long-term effects are given little weight in economic analyses); short tenure in elected office (which means that little weight is given to projects with delayed benefits); lack of long-term vision, ambition and plans in governmental and business decision making.

4. Unfair distribution

Skewed distribution of power, wealth, health, welfare, education and opportunity, within and between nations; inequitable distribution of environmental hazards and threats; vested interests of business; corporate dominance.

5. Human weakness

Selfishness, greed, corruption and prejudice; excessive focus needs of self, family and 'cronies', sometimes at the expense of the common good; amoral and lacking in ethics; genetically programmed egoism; insensitive to cultural values; wilful denial of knowledge.

6. Inappropriate incentives

Wrong incentives; distorting subsidies; unhelpful trade agreements; protectionist patent laws; exclusion of some groups; ineffective labour markets; uneven playing field; poor direction of investment; stifling long-term vision; perpetuates inequity; reinforces self interest; gives incentives for unsustainable ends.

7. Cost externalisation

Lack of full costing; lack of full life costing; disregard of cost impacts in future and elsewhere; under-valuation of nature; prices to not reflect true cost; destruction of value is not measured and factored in; environmental damage too cheap.

Appendices

8. Divided purpose

No common definition of the long-term goal for society; lack of agreed sustainability goals in central religious, political and scientific dogma; no commonly agreed values that support sustainable development; incompatible success measures; long-term consensus goals not discussed; lack of consensus even when knowledge is available.

9. Unsuitable values

Disregard of human rights; individualism, urbanism, spiritualism; wrong value system; intolerant value systems.

10. Misleading measures

Excessive emphasis on GDP, profits and other monetary measures; lacking measures of social and environmental impacts; money income and wealth as common indicator of status; misuse of existing measures; accidents add to GDP; we measure the wrong things.

11. Weak leadership

Risk averse and timid leadership, which knows but fails to take necessary action; insufficient indication of the route towards sustainability from the political or business elite; poverty in business ambition; lack of role models; leaders beset by moral and economic corruption.

12. External events

Major accidents; superhuman catastrophes.

13. Resource constraints

Depletion of natural resources; disruption of biosphere; inefficient resource use; resource intensive activity; waste; climate change and other effects of impending global limits; instability from exploitation of ecosystems; system limits not understood.

14. Poor governance

CEOs incentivised to do the wrong thing; formal or informal rules of business conduct that counteract a move towards sustainability.

15. Economics focus

Lack of integrated solutions; excessive emphasis on money and income; weak status of non-financial ministries; lacking emphasis on non-economic values; government narrowly focused on increasing prosperity.

16. Excessive consumption

Conspicuous consumption satisfying no basic need in Maslow's hierarchy; consumption requiring inordinate amounts of resources; consumption with unnecessarily high footprint per unit consumed.

17. Other failings

Corruption; lacking democracy; unrealistic expectations; polarisation of groups; alienation; democracy gives wrong answer; lack of trust; system inertia; problem too big; future is unknowable; lack of infrastructure; poverty; excessive competition; vested interest of business; lacking capacity in small companies or NGOs or governments; high cost of R&D; health and safety issues; conflict and people exploitation; misuse of technology; and excess connectivity leading to instability.

Appendix 3

Summary details on possible business actions towards a sustainable economy

1. Education

- Communicate what is already being done within the company to move towards sustainability.
- Clarify and communicate the business case for sustainability to all the company's stakeholders.
- Provide more information on the sustainability impacts of products and services; publicise these impacts.
- Organise sustainability literacy training for employees and seminars for opinion formers in the media and policy makers in education.
- Choose and promote more 'sexy' language 'our company's impact on the society', rather than sustainability.
- Look for sustainability awareness when hiring CEOs, senior management and other staff.
- Help to fund educational institutions to teach sustainability, or support courses on sustainability, either through sponsorship or in-kind.
- Create sustainability forums that promote sustainability dialogue, e.g. CEO panels, virtual sustainability colleges.
- Create and market 'edutainment' products that incorporate sustainability, e.g. new versions of 'Soul City' and 'Sim City'.
- Identify and promote sustainability role models in the media and in local communities.

- Target shareholders and financial analysts for sustainability awareness and education campaigns.
- Promote the importance of sustainability in all forums and contexts with perseverance!
- Present a toolkit of best practice in corporate sustainability.

2. Governance

- Encourage influential business and political leaders to commit to forming a common sustainability vision and a strategy for business action.
- Use partnerships to achieve systemic solutions to market and economic failures – a level playing field not disfavouring sustainability.
- Create partnerships of similar-thinking organisations (businesses, government, NGOs, academic institutions) to reduce the risks of pursuing sustainability objectives.
- Help create a World Environmental Organisation to match the World Trade Organisation.
- Support strengthening of the EU's sustainability procedures and toolkits.
- Establish an annual sustainable development event at the World Economic Forum.
- Identify the stakeholders with whom common ground can be established; use an honest broker and publish the consensus view.
- Lobby against eco-inefficient (or 'perverse') subsidies, taxes and economic structures.
- Establish a pact with government involving fiscal or other incentives for corporate action on sustainability.
- Encourage business and political leaders to commit to a common sustainability vision and strategy for business action.
- Volunteer staff to government to improve capacity, either through mentoring, secondments, elections to local council, etc.

3. Long-termism

- Link bonuses to long-term corporate performance.
- Make senior managers' pensions strictly dependent on future share price.
- Restrict voting on strategic issues to shareholders who have held stock more than three years.
- Seek a mechanism for articulating the voice of future generations in major decision making; put young people on the board.
- Promote long-term perspectives in corporate reporting and advertising; discourage reliance on quarterly reporting.
- Encourage employees to take a long-term approach to their careers.
- Form a vision for the long-term, plan for how to get there and try to bring government and civil society along.
- Promote long election periods in business and government.
- Work with pension funds to emphasise long-term value creation, e.g. mutual funds that report annually and do not seek to beat the competition every month.

- Establish a pact between business, government and NGOs to work towards a 20-year vision.
- Define long-term (20 year) sustainability goals and then sell them inside the corporation.

4. Equity

- Ensure that there is equity within the company, including equal pay for equal work, equal opportunities, safety nets, child care, tolerable gaps between the highest and lowest paid employees.
- Commit to the development of people in communities where companies are located.
- Argue for progressive taxation on income and wealth, in order to redistribute benefits to low income groups.
- Empower genders equally and encourage feminine values (in the dominant masculine culture of business).
- Support allocation of identical (non-tradable) per capita rights to emit greenhouse gases across the globe.
- Seek business opportunities involving those at the bottom of the pyramid (i.e. people who live on less than two dollars a day).

5. Responsibility

- Speak out against greed, selfishness and prejudice.
- Support the creation of a corruption register.
- Form a corporate alliance against corruption, with agreed standards, and encourage transparency.
- Support getting corruption on the G8 agenda.
- Encourage participation in socially responsible activities and corporate volunteering.
- Lobby for decent wages to people working in public services, e.g. police.
- Encourage new rules for advertising placing limitations on selling instant gratification.

6. Incentives

- Actively lobby to change the balance of taxation and regulation so they reward sustainable behaviour.
- More specifically, argue in favour of taxes on fossil fuels to encourage transition to low-carbon energy sources, and on resource use and emissions rather than on employment.
- Introduce transfer prices within companies that reflect full costs of social and environmental impacts.
- Promote understanding within the financial community of the long-term benefits of pursuing sustainability.
- Assess the full sustainability impact when making investment decisions.
- Argue against simplistic, one-track lowest price bidding.
- Demand 'sustainability values' from suppliers and expect customers to ask the same of you.

7. Externalities

- Establish the full costs of companies' major inputs and consider them when investment decisions are made.
- Price products and services to reflect their full environmental cost.
- Label products and services to provide environmental and social information (e.g. CO₂ emitted during production and use, wages paid to providers of raw materials).
- Support green taxes on under-priced resources.
- Support increases in energy taxation to trigger energy efficiency and R&D.
- Argue for adequate charges for the use of nature, to cover the full cost of regeneration.
- Factor updated insurance premiums into full cost prices.
- Promote adoption of full cost accounting consistently across the world.
- Use full cost prices and whole life valuations as the normal basis for corporate decision making.
- Design products for complete recycling.

8. Purpose

- Support the pursuit of a common societal purpose (e.g. contribute to the development of a common vision; lead by example; exert influence through partnerships and alliances; engage in national and local debates on common rules for a sustainable society; create partnerships as a basis for gaining recognition for these actions).
- Include non-financial measurements in annual reporting (e.g. human capital accounts, resource consumption, other social impacts).
- Develop relevant audit mechanisms and work towards getting auditors to take this area seriously.
- Report on the percentage of profits arising from 'good' products versus 'bad'.

9. Values

- Make sustainable goods attractive to personal values and align sustainability with personal values.
- Establish common values in partnership with key stakeholders.
- Publish the corporation's values and report on incidents of non-compliance.
- Help make sustainability a mainstream topic in industry by connecting to current corporate values like safety, protection of the environment and social responsibility, and framing it as risk mitigation.

10. Measures

- Support the development, publication and use of different measures of human well-being.
- Highlight discrepancies between per capita income (or GDP) and indicators of human well-being.
- Define, measure and publish companies' ecological footprint.
- Measure and address the total costs and benefits of products and services over their whole life cycle ('from cradle to cradle').
- Present financial reports based on full costs (e.g. energy costs including future quota costs, water costs including clean-up costs, labour costs in poor countries based on a living wage) in parallel with normal accounts.
- Argue for revision of statutory corporate financial reporting to include full cost accounting.
- Develop tools and information systems that make visible what is currently invisible (e.g. ecological footprints, carbon budgets).
- Establish partnerships to create and promote a metric for the triple bottom line.
- Promote 'personal footprint accounting' parallel to corporate sustainability reporting.

11. Leadership

- Have your CEO and peers make a more forceful case that they are responsible not only to shareholders, but also a wider range of stakeholders.
- Help make sustainable development a mainstream topic in industry through individual example and initiatives.
- Help your CEO become: willing to break the mould; willing to be unpopular; willing to take risks; transparent about views and decisions; willing to set up and adhere to strong ethical standards.

12. Resources

- Stick to the precautionary principle.
- Go carbon neutral.
- Support the polluter pays principle, e.g. taxes on harmful impacts.
- Establish a national 'Fed' which decides on energy prices, modelled after the Reserve Bank's authority to set interest rates, in order to raise energy prices ahead of time, triggering desirable demand shift and R&D.
- Lobby against consumption with unnecessarily high footprint per unit consumed.

13. Management

- Report on the long-term sustainability vision, ambition and plan of the corporation.
- Take time to analyse your business's current and potential future impacts on society and the environment.
- Establish performance measures and reward systems around sustainability objectives.
- Create a new synthesis between stakeholder rights and long-term shareholder value.
- Put stakeholders on the board. Obtain board level commitment to any output.
- Require knowledge of sustainability as a necessary qualification to run a listed company.
- Expect senior management to walk the talk on sustainability.
- Organise induction training for sustainability values, sustainability reporting and sustainability housekeeping.
- Publish what issues the corporation is lobbying for and against.
- Publish industry standards ('charters' of good practice) and report on the corporation's performance.
- Disclose transfer pricing policies and geographic jurisdiction.
- Promote sustainability as a next shared objective in the corporate world, copying the rise of safety as a shared objective in the oil industry, transparency in the mining sector, and the jointly agreed HIV/Aids agenda in South Africa.
- Create champions for the sustainability cause at all levels in the organisation.

Appendix 4

SED participants

Mr Paul Abberley Global Head of Fixed Income, ABN AMRO Bank

Mr Raul Adalberto de Campos Executive Manager, Investor Relations, Petrobas Petroleo Brasileiro

Mr Mark Adderley Business Services Director, Scottish Water

Mr Nigel Alcock Sales Director, npower

Mr Andrew Alli Country Manager, Nigeria, International Finance Corporation

Miss Liz Almond

Dr Ali Hamed Al-Mulla Executive Manager, Environment & Sustainable Development, Qatar Petroleum

Dr Jim Anderson Site Manager, Avlon Works, AstraZeneca

Ms Lavinia Andrei President, Terra Millennium III cancee

Mr Gijsbert Appels Manager, KPMG

Mr Pascal Appere Country Manager for France & North Africa, RWE Thames Water plc

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Core Faculty

Many of the Core Faculty played a crucial role as session facilitators in the SED.

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Endnotes

¹ The 2005 results have not been captured in this report.

² For a compendium of issues, data and trends relating to the Five Capitals Model, see the CPI Report Backgroud Briefing, The State of the Planet and its People.

³ As major failings, material growth, population growth, economic globalisation, industrialisation, adverse technologies and advertising did not make it into the top ten although they were recognised implicitly in lower ranked failings. Many current (especially academic and activist) explanations of unsustainability emphasise these failings. It would therefore be useful to explore why they are missing from the SED top ten. If they had been fully included in the cross-impact appraisal, the derived results and insights would have been very different.

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