

Integrating Human and Ecological Sustainability

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Emerging forces driving sustainability

The Earth Summit in 1992 endorsed the need for a positive relationship between the environment and business and introduced the concept of 'sustainable development', generally understood to mean development which meets the needs of the present generation without compromising the ability of future generations to meet theirs. Since then, integrating the social, environmental and economic dimensions of sustainability into a wholistic process has proven a major challenge to business managers, community activists, politicians, bureaucrats and theoreticians. Consequently, the sustainability debate ranges over questions such as: How can we value and measure natural resources? How can we distribute ecological resources between and within generations? How can we build human capabilities in corporations and in society rather than destroying them?

This paper argues that these issues can only be resolved through forging creative alliances between citizens, governments and corporations. The complex issues of sustainability need to be addressed by a new political force: a mix of private and public actors, including empowered public interest groups, corporations, multinational organisations, national and international governments and industry associations. This kind of concerted action is needed to address the sustainability deficits that have emerged as a result of both 'command and control' regulation, where compliance is required to legislatively set requirements or standards, and market-based measures, such as environmental taxes and tradeable permits. In this new order, corporate actors will be rewarded for their proactive engagement with issues of sustainability and their contributions to the welfare of society and the biosphere. This is not simply idealism – it is an emerging reality. An example here is the significant contribution that the environmental technology industries are making to the success of some economies, such as Sweden. However, we have a long way to go to make this new reality simply the way we normally do business.

This paper looks at the external and internal forces causing corporations to shift to a more socially and responsible position and describes an integrated perspective designed to progress the corporation towards human and ecological sustainability.

External pressures on the firm come from governments, community members, consumers, customers and market expectations, other corporations, industry associations, and other non-government organisations. The internal drivers are corporate leaders and change agents who see the benefit of the business case for sustainability. Marketing, human resource and operations managers are now making decisions influenced by sustainability factors (Wilkinson, Hill and Gollan, 2001). Employees, shareholders and investment companies are assessing the firm's performance against sustainability criteria such as the maintenance of intellectual, knowledge and social capital, commitment and values, risk management and increasingly, an innovative corporate culture. All are factors that will assist in the long-term survival of the firm in the new economy.

Another driver for change underpins the increasing interest that corporate leaders are taking in sustainability. There is a moral purpose to the shift that goes beyond rational utility and business advantage. This new issue is responsibility: to future generations and to the world as we know it today. Leading writers talk of new models for corporations that will dictate a new way of doing business. For these writers, the firm, like any other aspect of society, is a living organism in an interconnected ecological community, where caring for others is the long-term function of each community member (Ehrenfeld 2000).

External drivers for change

Globalisation and corporate consolidation

Since the 1970s, deregulation and privatisation have replaced state intervention as the political imperatives of global politics. The accepted orthodoxy is that policies of neo-liberalism such as deregulation and free trade, will shift resources to underdeveloped countries, which will in turn increase their wealth. Furthermore, by embracing globalisation, countries can share in economic progress and efficiency. Through a near blind acceptance of these economic ideals we have reached a situation whereby the complex and global operations of financial markets and major corporations goes beyond the power of national governments. Now almost three quarters of the world's trade is controlled by the top 500 corporations, intra-firm trade accounts for approximately one-third of all world trade and 51 of the world's largest economies are corporations (Korten 2000; Korten 2001).

Some corporations are now in a position of unprecedented power. This raises the issue of how this power is exercised and for whose benefit? The trend toward world-wide corporate consolidation has led to an emotive debate about political influence, democratic input, labour standards, human rights and inequities within and between nation states. In other words, the belief systems associated with neo-liberalism are open to question and debate.

Social and environmental impacts of globalisation

Globalisation has opened markets, dispersed capital and grown investments and has been endorsed by most leaders of developing and developed countries. But globalisation is also reinforcing and extending inequities in human living standards. Global activity, such as increased trade and financial flows, disproportionately benefits the richer countries.

Environmental degradation has social costs and social deprivation has environmental costs. The environmental costs of the global increase in industrial activity are also distributed unevenly between nations. Recent measurements reveal global temperature and the increase in atmospheric CO₂ at all time highs. Each new set of measurements confirms the link between global warming and carbon emissions. Climate change is now accelerating so fast that the Arctic is expected to be ice free in summer within the next 50 years. Other effects include the wholesale destruction of coral reefs and the potential for a drastic alteration of the social and economic life of many countries. Even critics of the Kyoto Protocol on Climate Change agree that global warming has massive costs and that the 'developing countries will be hit much harder' by the rises in temperature (Lomborg 2001).

Ulrich Beck, the German sociologist, argues that since many of these social and environmental impacts are global, incalculable in scale, uninsurable and irreversible, coping with them is beyond the capacity of the traditional institutions of science, law and political systems (Beck 1996). For instance, the costs and long-term effects of the fallout of the nuclear incident at Chernobyl in 1986, and the leak of methyl isocyanate gas at the Union Carbide factory in Bhopal, India in 1984, are still in dispute, perhaps still to be reckoned with. Likewise, there is much uncertainty concerning the precise nature of the relationship between the build up of greenhouse gases in the atmosphere and global warming. The debates and uncertainties associated with the outbreak of Bovine Spongiform Encephalopathy (BSE) in the United Kingdom and the use of genetically-modified (GM) organisms to produce foodstuffs reflect a public loss of faith in the ability of our institutions to deal with these risks and uncertainties. As John Browne, President of BP, put it in his recent Reith Lecture: 'We are in a world without certainty – except for the certainty of change' (Browne 2000).

'Globalisation from below'

Organised by transnational NGOs and spread largely on the internet, 'globalisation from below' is an initiative directed against the perceived self-seeking manipulations of elite nation-states and transnationals driving 'globalisation from above' (Beck 1999). The aims of 'globalisation from below' are diffuse and the vision for the future is not clearly specified. But the message is clear on two counts. The 'globalisation from below' movement, and the criticism of Western 'imperialism' surrounding the events of September 2001, indicate the extent to which some constituent groups in society are opposed to Western developmentalism. Secondly, influential environmentalists, such as Paul Hawken and Dr Vandana Shiva, whose books and articles have a world-wide audience, are leading anti-globalisation protesters in support of decentralised decision-making on sustainability issues (Palmer 2001). In this debate, many multinationals have been targeted by demands to deliver more sustainable outcomes.

The networked society

'Globalisation from below' highlights two important points for corporations. Firstly, globalisation and the information revolution have also given the general public the means for self-critique and self-transformation. As awareness of the limitations of our traditional institutions spreads, we are moving towards what Hazel Henderson has termed 'the networked society'. Henderson argues that the most noticeable current political trend has been the advance of citizen organisations and movements. They are now a distinct third sector in the world holding the private and public sectors more accountable. More access to information has helped empower citizens, consumer choice, employees and socially responsible investors. 'The information society has created new winners – and morphed into the 'age of truth' (Henderson 1999)

Secondly, with increased public awareness of sustainability issues, customer and market expectations are looking for more responsible products and services. The 1999 Millennium Poll sponsored by PricewaterhouseCoopers showed that two in three citizens wanted companies to go beyond their traditional goal of maximising shareholder value and consider broader societal goals. In a firm-specific study in 1998, the great majority of the major customers of Hewlett-Packard mentioned an ISO 14001-certified environmental management system, documentation of continuous improvement against environmental performance objectives and clear environmental attribute information for their products as criteria they use when making purchasing decisions. More than 50% of the companies said they would expect energy-efficient, safe products (Preston 2001).

Alliances for sustainability

The second force driving the corporate shift to sustainability is the formation of new alliances in the name of sustainability. In this new global reality, alliances and networks are forming between social and natural scientists, business, local government, community and other social actors whose allegiances cross established boundaries. The media, information systems and ad hoc 'coalitions of opposites', such as those between NGOs and business organisations, are increasingly influential in all aspects of society. The Global Reporting Initiative, for instance, gathers input from environmental, human rights and industry association NGOs. Consumer action and mass boycotts and protests are forcing corporations to defend their actions.

Because of the capacity of sustainability to bring together different factions of society, a wide range of environmental and human rights organisations have emerged as a powerful force for corporate change, operating at both national and international levels in cooperation with corporations. Some have become heavily involved as gatekeepers of national deregulatory reforms and in cooperative arrangements at the international level (Murphy and Bendell 2001).

The community-based Landcare movement in Australia, which aims to foster sustainable natural resource management, has formed many partnership arrangements with corporate supporters such as the major mining firm, Rio Tinto, the resources company, BHP, and Fuji Xerox. Sponsorship agreements can influence corporate support for sustainability. Examples include more precautionary labelling for safe disposal on paint tins and the development of an approved environment policy by the manufacturer of home-brand paints. McDonalds was refused partnership because of its lack of policy on waste reduction (Scarsbrick 2001).

As pointed out, informed consumer choice has been fanned by global information networks. Successful community-initiated legal action suits and consumer boycotts of companies concealing negative environmental effects have led citizen action groups to seek the role of corporation stakeholders. For instance, good neighbour agreements are increasingly common, with corporations and neighbourhoods working together to develop win-win solutions in problem solving. Examples of outcomes from such agreements include safety audits conducted by local residents, commitments to local hiring and research into best available alternatives. The Responsible Care code followed by many chemical companies, for instance, requires each of the companies to form a community consultative committee.

Corporations are learning from relationships with other sectors. They are learning to be mission and Board-led, and their employees are learning the value of social cohesiveness and a shared sense of responsibility. They can gain in legitimacy, while keeping to their central business focus. They are recognising the growing demand from across society for more participatory decision-making and accountability. In the process they have learnt the value of strategic alliances and of sustainability.

Pressure from investors

More informed shareholders are demanding a role in corporate decision-making. Not only can shareholder activism be extremely damaging to the reputation of the corporation, but shareholders are now using sustainability as a measure of financial success. Sustainability indices such as the Dow Jones Sustainability Index are outperforming other indices (Grey 2001). The financial markets are generally requiring more information on standards of accountability and the financial services industry is now under considerable pressure to provide for ethical investment (Clarke 2001). Currently, the ethical investment sector in the US represents 13% of all dollars under management, with more than US\$13 trillion invested (Wallace 2002). The Socially Responsible Investment (SRI) industry is a major growth sector of the financial services industry, growing by a factor twelve times that of the wider managed funds sector (Wallace 2002).

The UK Government has recently passed legislation to regulate pension funds so that they have to take account of environmental, social and ethical impacts of their investments. The funds are evidently prepared to take a strong stance on these issues. In a survey of the 25 largest UK largest pension funds, around 70% of the funds said that they would implement SRI principles through active engagement rather than simply boycotting specific industry sectors such as tobacco and alcohol.¹ This initiative of the UK Government reflects a general shift in the policymaking of national governments toward supporting sustainability.

New approaches for change

Since the Brundtland Report and the Rio Conference, business has been drawn into a system of co-regulation, where government, business and community are all expected to play a part in sustainable development and pollution prevention. Many members of the public, and increasing numbers of industry and government leaders, recognise that government alone cannot wear the responsibility for decisions taken by industry.

In order to prevent such practices as corporate capture, community representatives are playing a more prominent role in the negotiations between government and industry. For instance, a Community Consultative Committee has effectively acted as a watch-dog on negotiations between the NSW EPA and Orica (previously ICI Australia). The negotiations have concerned the disposal of the largest stockpile in the world of hexachlorbenzene (HCB), a toxic organochlorine compound.

During the 1990s, co-regulation has also meant the development of new forms of legislation designed to integrate sustainability principles into the decision-making of business. Many governments are examining incentives to prompt business recognition of the new reality that moral and ethical responsibility can co-exist with financial success. The user pays principle has emerged as a key driver of corporate change. In essence, governments are now working towards ensuring that those who create the risks pay for them. Taxes such as consumer fees for the disposal of appliances (applied in Japan), legislation for producer responsibility (in Sweden and the Netherlands) and pollution taxes in many countries are examples. In the US, Superfund represents an early attempt by government to force corporations to internalise environmental costs.

Incentives-based and polluter-pays strategies include load-based licensing and tradeable permits to encourage reduction of pollution. In load-based licensing, companies are charged license fees which vary according to the amount of pollution they discharge. Other economic policy tools include tradeable rights to natural resources to encourage efficient resource management, innovative design and cleaner production. Examples of such incentives include vehicle emission quotas, landfill taxes, and 'green taxes', such as carbon taxes (as in Denmark), congestion taxes (as in Singapore) and vehicle return bonuses.

New reporting requirements and concepts

The 'Porter Hypothesis' is that better designed regulation can lead to greater innovation, reduce uncertainty, raise corporate awareness and signal areas of potential resource inefficiency. Because this argument was advanced by a person widely regarded as the leading thinker in corporate strategy, it has been influential in the debate during the late 1990s concerning the framing of the environment-competitiveness relationship (Porter and van der Linde 1995). Although many writers have taken issue with Porter's perspective on the government-corporate relationship, the debate overall has created support for the idea that a properly designed and strictly regulated framework can prod managers to abandon ingrained ways and static models of thinking and operating for a more innovative approach to sustainability.

Accompanying the push for greater regulation is increased pressure on corporates to employ better assessment and measurement techniques in activities relevant to sustainability. Accordingly, governments have become involved in the setting of sustainability targets, indicators, reporting requirements, standards and a variety of other initiatives designed to effect change in corporate behaviour. Research indicates that government initiatives have been responsible for an increased rate of publishing of health and safety and environmental reports in all countries except the USA. Bigger companies, with a higher public profile, or under regulatory pressure from a number of countries, are also more likely to report. Further pressure is also placed on organisations to report by voluntary sector-specific agreements such as the Responsible Care program of the chemicals sector.

Ecological modernisation

The argument that regulation can force or 'enlighten' corporations to employ the environment as a 'competitive opportunity' has been taken up by some governments in Northern Europe and Japan. These governments have initiated policies geared to encourage the emergence of a specific sector, which focusses on the development of green technology, or environmental services. This powerful approach, termed 'ecological modernisation' by academic writers, sees scientific and technological advances as an answer to the dilemma of how to provide for continued economic growth without negative impact on the environment (Mol 1997). The basic argument is that we do not have to create a new political economy to achieve sustainability. It is enough to ensure that innovative environmental goods and services become a source of profit (Dryzek 1997). This approach is also co-regulatory, its proponents arguing that market, government and NGOs all have a role to play in industrial transformation incorporating more ecologically friendly principles. Indeed, many of the governments, such as Japan, Sweden, Norway and Germany, which have been most successful in shifting the economy away from a dependency on unsustainable production technology towards green production technology, have a tradition of close associative relations between industry, business and government.

As a result of applying these strategies, the eco-industry sector in Europe now provides up to 3.5 million jobs. Currently, the core eco-industries in the EU, not including renewable energy and energy efficiency equipment and services, supply around half of the world market of 300 billion Euro per year. With a massive expansion forecast for regions such as China, South America and South-East Asia, the world market is expected to increase to 740 billion Euro by 2010 (Wallstrom 2002).

Globalisation and the information society, informed consumers and shareholders and new roles and policymaking on the part of NGOs and national governments, are major external pressures on corporations to take a more ethical stance in their business dealings in terms of respect for the rights of current and future generations. The traditional distinction between external and internal drivers is useful to highlight another set of pressures, to do with efficiency, risk management and business advantage. We can think of these pressures as the internal drivers for sustainability.

Internal drivers for change

Traditionally government and other external actors have been the major forces for corporate sustainability. More recently, internal factors are putting pressure on companies to reconsider their product design, human resource development, marketing and operations management strategies in light of business ethics and environmental and social responsibility. Each of these internal factors can be analysed in terms of business value. In a 1998 survey of 481 companies, the consulting firm Arthur D. Little found that 83% of these companies saw business value in implementing sustainable initiatives.²

The costs of non-compliance

The most obvious internal pressure on managers in this context is cost avoidance. But the firm now needs to consider costs to its reputation in the eyes of its employees as well as external stakeholders such as shareholders, suppliers and consumers. The costs of non-compliance can be devastating for corporations, a point emphasised by a recent survey which showed that 85% of US manufacturers have a corporate policy requiring compliance with the environmental standards in the country with which they do business.³

Being competitive means reducing costs. As we have indicated, governments are still experimenting with measures to ensure increased sustainability. As we have shown above, most governments impose penalty measures for non-compliance. Corporations which do not address social and environmental requirements face fines, workers compensation cases, criminal convictions and payment of clean-up costs. The potential for damage liability can make non-compliance a significant business risk.

Some examples:

- In the US, the total corporate liability costs for asbestos-related diseases has been estimated at US\$30 billion, far more than the product ever earned its manufacturers. In a recent Court decision in South Africa, more than 300 workers in an asbestos mine were awarded damages. Claims by the multinational company that it could not be held accountable for the actions of subsidiary companies were discounted. A major concern of the workers' lawyers was that if larger settlements were won, there appeared a strong likelihood that the company would be bankrupted.⁴
- The Swiss pharmaceutical firm, Roche, has recently put 8000 of its workers through training programs to ensure they follow national and international laws, as a result of some of the world's largest pharmaceutical companies being fined more than US\$700 million for operating an illegal price-fixing cartel.⁵
- A recent UN Report estimated that natural disasters, including those related to climate change, could cost insurance companies up to \$150 billion within 10 years. The Report and associated predictions by environmental groups that tourism operators could potentially sue companies and governments for the impacts of global warming, make very real the predictions of 'risk society' theorists such as Beck (Peatling 2002).

The costs of inadequate protection are now taking precedence over a narrow focus on the costs of compliance. Despite the extent of such liabilities, direct costs may not be the only cost issue pushing corporations towards compliance.

Employee awareness

Another survey of more than 1000 US manufacturers showed that 81% have adopted formal mechanisms through which environmental considerations are addressed in everyday business and operating decisions.⁶ Internal aspects of the firm can add to an explanation of these trends. With increased environmental and occupational health and safety awareness amongst employees, managers have to be seen to address requirements for employee safety as well as address environmental regulations. Wilkinson, Hill and Gollan warn that if the gap is not addressed between rhetoric and reality in this area, 'then the likely outcome will be an exodus of bright and enthusiastic people to organisations that do' (Wilkinson et al 2001). According to Michael Anderson, Head Social Responsibility Funds, AMP, tobacco companies and others with a negative public image are paying employees approximately 20% more in order to get people to work for them.⁷

Leadership and risk management

A recent address by Malcolm Brinded, Shell UK Country Chairman, outlines the changed attitudes of progressive corporate leaders towards health, safety and environment risks: 'Not least is the fact they cannot be averaged. Failures in health, safety and environmental risk management may result in harm to people, and I think all of us recognise that the personal safety of anyone involved with our businesses overrides all other priorities'.⁸

Brinded agrees that corporate leadership in this area is crucial to the need to change skills, attitudes and behaviours, but points to the importance of public opinion in the evaluation of the risk. He admits that Shell's poor communication led to the debacle over the decommissioning of the Brent Spar. Their independently verified technical assessment of the risks involved was not supported by everyone. According to Brinded, Shell began to realise that 'some decisions need to be driven by values and not decided solely on the basis of sound science'.⁹

Public opinion often seems only the opinion of activist NGOs, but it is now also the opinion of employees and shareholders. It has become very costly to operate companies which are not socially responsible.

Maintaining awareness of the precautionary principle and consultation with a wide range of stakeholders when assessing environmental risk can deliver business advantages. Reinhardt, for instance, describes a situation where plans for timber-harvesting and the building of a pulp mill using chlorine bleaching in the forest areas of Northern Alberta were modified according to demands made by local farmers, aboriginal residents and environmental activists. The modified plans, which included forest-management plans and reduced pollution level, cost little compared to the gains in the long-term stability of the project. Reinhardt argues that the 'environmental goods' traded were well worth it in return for 'an insurance policy against regulatory difficulties, sour community relations, business

interruptions and related cost shocks (Reinhardt 2000). This issue highlights the importance of leadership in taking a strategic view of shifting corporations towards sustainability.

The knowledge-based organisation

In the information-based economy, corporations are looking to long-term survival through the development of knowledge systems, stores of social capital and a culture of innovation. These aspects of human sustainability in turn enable the firm to take a position of more environmental responsibility. A position of corporate sustainability requires a firm both to be responsible to employees and to look to its own needs for long-term survival. In this context, managers are being influenced by a significant body of research which indicates that organisations last longer if they have clearly identified their values and goals (Collins and Porras 1997). Collins and Porras, in their study of a number of visionary companies, found that these companies had an ideology which was made up of core values and purpose. It is this sense of core values which employees identified with and to which they developed commitment. Profit was important but it was not the defining feature of these visionary companies. According to this research, an organisation which has a clear sense of its mission for sustainability, will more than survive - it can become a visionary organisation and thrive in the long-term.

Knowledge management is also drawing attention to the value of an organisation's human resources. Motivation, qualifications and commitment, when combined with a significant store of 'corporate memory', are a major asset to the corporation. Companies are increasingly dependent on employees who can work cooperatively and contribute to the social capital of the organisation. Social capital is fundamental to the successful working of the new organisational forms such as the network organisation and communities of practice.

As prized employees hunt for the firm with a strong sense of values, there are real rewards in becoming an employer of choice. Firms need employees who can give high levels of customer service and 'who are sufficiently motivated by the company's mission and prospects to stay and aspire to higher levels of productivity. The importance of teamwork, loyalty and skills is becoming doctrine in almost every industry' (Sagawa and Segal 2000).

Recent work also indicates a relationship between human resource policies, the successful implementation of the Environmental Management System (EMS) and its maintenance as a strategic business and risk management tool. This research concludes that EMS programs are more successful if factors such as training, empowerment, teamwork, and rewards are addressed (Daily and Huang 2001).

Natural capitalism: the business advantage

The perspective of 'natural capitalism' has been much publicised. If firms persist with the win-win business logic of 'natural capitalism', profiting from increasing the productivity of natural resources, closing materials loops and eliminating waste, shifting to biologically inspired production models, providing their customers with efficient solutions, and reinvesting in natural capital, they can gain a commanding competitive advantage (Lovins and Hawken 2001).

Business advantage is also offered through the organisational restructuring required by following the principles of industrial ecology. Tracking material and energy flows over the whole producer/consumer cycle reduces the likelihood of 'suboptimal solutions' and 'unintended consequences' (Ehrenfeld 2000)..

At Hewlett-Packard, for example, their Environmental Strategies and Solutions program 'confirmed that sustainability does offer companies a strategic competitive advantage' (Preston 2001). This conclusion was based on the premise that the planet is a closed system which will eventually face limits. In these circumstances, the firm would be in a new social and economic situation, and would have to deal with the challenges of a new business environment. According to Hewlett-Packard, incorporating sustainability into its core business strategies would 'enable HP to transform potential environmental liabilities such as climate change, resource exhaustion and the energy crisis into strategic business opportunities and competitive advantage' (Preston 2001).

A culture of innovation

Managers are also recognising the links between an organisational culture of innovation and one designed to deliver sustainability. Practices designed to enhance human sustainability and social capital within the organisation (such as empowerment, teamwork and continuous learning) are linked to the capacity to innovate and escape from rigid models of operation and production. Arguably,

implementing more sustainable practices creates an organisational culture that facilitates both resource productivity and product differentiation (Orssatto 2000).

A number of companies have been successful in employing a strategy of environmental product differentiation. Reinhardt points out that such a strategy will be successful if consumers are prepared to pay more, if the benefits can be communicated readily and if the innovation is unique long enough for a profit to be made (Reinhardt 2000). Corporations face an accelerating rate of change and an increasingly complex society. For these business conditions, innovation depends on cultural and structural characteristics of the organisation. Both sets of characteristics are linked to the organisation's capacity to engage with sustainability. Cultural factors such as those associated with the learning organisation also underpin a culture of precaution. Structural factors such as an internal network culture, employee participation and the capability to develop community partnerships, also support human sustainability.

In other words, innovation, business concept redesign, and sustainability can be readily linked in a dynamic relationship aimed at delivering long-term business advantage.

Importantly, such qualities enable the corporation to be more responsive to the external drivers of change. An organisation geared to innovation is ready to take up government incentives for 'ecological modernisation'. That is, it can readily translate social and moral issues into market issues and can exploit the potentially huge market that ecological sustainability, in particular, represents. But more than that, such an organisation can more critically reflect on the possibilities of new relationships between nature, society and technology that will mark a new, more sustainable age (Hajer 1996).

Conclusion: phases in the development of sustainability

This paper began by asking why managers are moving to address the challenges of human and ecological sustainability. In large part, the answer is that the new reality for managers is that business success and sustainability are inextricably linked. Both human sustainability and environmental health are essential aspects of corporate survival. Corporations are exposed to different drivers for each of these aspects of sustainability. Their reaction can be described according to a continuum which ranges from rejection to an ideal state: 'the sustaining corporation'. This continuum is set out in Appendix 1 and is based on a phase recent publication by Dunphy et al (Dunphy, Griffiths and Benn 2002).

This perspective differs from other corporate development models in that it focuses on a unified approach to workplace, community and ecological sustainability as a means of moving the organisation towards corporate sustainability. Hence the evolution of corporate sustainability requires the reshaping of workplace systems which are responsible for both technical processes, workforce motivation and corporate citizenship. The process should aim to develop the human capability and skills that will sustain the organisation and the ecological environment, as well as enable community renewal. Transformative and incremental changes associated with the progressive change in human resource and environmental management practices are required. For instance, organisations in some sectors such as the service or financial sector may be able to become more sustainable through gradual incremental shifts. Other sectors, such as the chemicals or energy sectors, may need to reinvent themselves according to a new product range, in order to become more sustainable. Other corporations may need to drastically reshape the corporate culture from one based on authority and hierarchy to one based on consultation and teamwork in order to enable a more sustainable, committed and stable workforce.

The changes aim to develop a high performance organisation which also contributes to community and ecological renewal through the integration of technical training with interpersonal skills training, the systematic development of skills, the promotion of workplace diversity and work/ life balance and collaborative, rather than philanthropic, community relations.

In this context, the principles of industrial ecology, of community, interconnectedness and cooperation, can be seen as a model for the way forward for corporation wishing to move towards sustainability. They provide a framework for new levels of resource productivity and generate new strategic directions. More importantly, they serve as a way of understanding the corporation as a moral entity (Ehrenfeld 2000).

APPENDIX 1
THE PHASES OF SUSTAINABILITY



- 1** **Rejection** involves an attitude on the part of the corporation's dominant elite that all resources – employees, community infrastructure and the ecological environment – are there to be exploited by the firm for immediate economic gain. On the human side, employees are regarded simply as industrial 'cannon fodder' – there is no commitment to developing them, and health and safety measures are ignored or given 'lip service'. There is a strong belief that the firm simply exists to maximize profit and any other claims by the community are dismissed as illegitimate. The firm disregards the destructive environmental impacts of its activities and actively opposes any attempts by governments and 'green' activists to place constraints on its activities.



- 2** **Non-responsiveness** usually results from lack of awareness or ignorance rather than from active opposition to a corporate ethic broader than financial gain. Many of the corporations in this category embody the culture of the past century, concentrating on 'business as usual', operating in conventional ways that do not incorporate sustainability issues into corporate decision-making. The firm's human resource strategies, if they exist, are focused mainly on creating and maintaining a compliant workforce. Community issues are ignored where possible and the environmental consequences of the firm's activities are taken for granted and, if negative, disregarded.



- 3** **Compliance** focuses on reducing the risk of sanctions for failing to meet minimum standards as an employer or producer. In organizations at this stage, the dominant elite emphasizes being a 'decent employer and corporate citizen' by ensuring a safe, healthy workplace and avoiding environmental abuses that could lead to litigation or strong community action directed toward the firm. However they are primarily reactive to growing legal requirements and community expectations for more sustainable practices. A recent shift has seen the development of co-regulatory practices. Instead of the traditional 'command and control' approach of governmental regulation, industry, NGOs and governments are collaborating to develop new systems of voluntary compliance. This shift represents a transition from compliance toward later phases.



- 4** **Efficiency** reflects a growing awareness on the part of the dominant elite in the corporation that there are real advantages to be gained by proactively instituting sustainable practices. In particular human resource and environmental policies and practices are used to reduce costs and increase efficiency. There is, for example, a growing awareness in many firms that what is defined as 'waste' derived from the production process may be a valuable resource to another firm. (For example, the spent hops from a brewery may be valuable as cattle feed and therefore

sold rather than dumped). Similarly, investment in training may involve expense but result in compensating added value through increased quality of products and services. While moves toward sustainability may involve additional expense, they can also have significant payoffs in terms of generating income directly or indirectly. This is the beginning of the process of incorporating sustainability as an integral part of the business.



- 5 **Strategic Proactivity** moves the firm further along the sustainability path by making sustainability an important part of the firm's business strategy. The firm's strategic elite views sustainability as providing a potential competitive advantage. Consequently they try to position the organization as a leader in sustainable business practices – with advanced human resource strategies that help make the organization an 'employer of choice', with 'corporate citizenship' initiatives that build stakeholder support and with innovative, quality products that are environmentally safe and healthy. The commitment to sustainability however is strongly embedded in the quest for maximizing longer-term corporate profitability, that is, it is motivated by intelligent corporate self-interest.



- 6 **The Sustaining Corporation**, the final phase, is one where the strategic elite has strongly internalized the ideology of working for a sustainable world. If it is a 'for profit' company, the organization still pursues the traditional business objective of providing an excellent return to investors, but voluntarily goes beyond this by actively promoting ecological sustainability values and practices in the industry and society generally. Its fundamental commitment is to facilitate the emergence of a society that supports the ecological viability of the planet and its species and contributes to just, equitable social practices and human fulfilment.

ENDNOTES

¹ Information from Greenbiz.com at http://www.greenbiz.com/news/news_third.cfm?NewsID=11320 (accessed 21 June 2001).

² A. D. Little and Associates, 1998 quoted in A.B. and L. Lovins and P. Hawken, 'A road map for natural capitalism', in R. Starkey and R. Welford (eds) *Business and Sustainable Development*, London: Earthscan Publications, 2001, pp. 288-312.

³ Manufacturers Alliance and National Association of Manufacturers Joint Survey, at <http://www.nam.org/DOCS/ResourcesEnvironmental> (accessed 24 May 2001).

⁴ <http://www.abc.net/news> (accessed on 19 February 2002).

⁵ A. Osborn, 'Vitamin Inc Fined \$1.4 bn for Price-Fix', *Sydney Morning Herald*, 23 November, 2001, p. 14.

⁶ Survey of Manufacturers, 'Encouraging Findings', *Industry Week*, January 19, 1998.

⁷ M. Anderson, 'Does the Market Value Sustainability'?, *Sustainable Business Forum*, Sydney, at <http://www.csp.uts.edu.au/csn/sbfjuly01.html> (accessed 18 January, 2002).

⁸ M. Brinded, 'Perception versus Analysis: How to Handle Risk', Speech to the Royal Academy of Engineering, London, 31 May 2000.

⁹ Ibid.

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