

Corporate capitalism: A barrier to be overcome in enabling ecologically and socially sustainable development

Ian McGregor, University of Technology Sydney

This article seeks to identify ways of ensuring that the business sector can more effectively contribute to the required transition towards ecologically sustainable development (ESD). It begins by seeking to identify the major reasons for the lack of progress towards ESD in Australia, New Zealand and most other developed countries. It then identifies the financial and business systems within which the major corporations operate as one of the major reasons for this lack of progress.

The article briefly reviews possible approaches to sustainable societies and it then proposes using the Natural Step system conditions for ecological and social sustainability to develop objectives for an ecologically sustainable business sector. It then describes some of the major ways of changing how governance, society, governments and businesses might operate, in order to re-orient society towards being ecologically and socially sustainable.

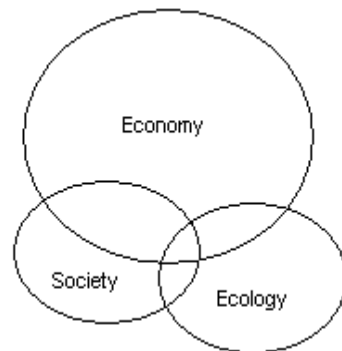
Progress towards ESD

Models of sustainable development

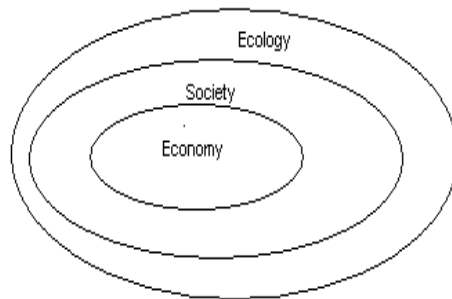
This section reviews briefly the two predominant models of sustainable development from the sustainable development literature. This will help define how this article conceptualises ESD and how this relates to sustainable societies. These two models were illustrated in the following diagrams based on those included in *1996 Australia: State of Environment Report*.

Figure 1: two models of sustainable development**Overlapping System Model of SD**

(Three Pillars model)

**Nested System Model of ESD**

(Russian Doll model)



Source: (State of the Environment Advisory Council 1996: Ch 10, 12)

The overlapping system model of sustainable development

The major problem with the overlapping system model (also referred to as the three pillars model) is that it does not recognize that our economic and social systems must operate within the constraints of the eco-system (State of the Environment Advisory Council 1996). These models generally promote a balance of ecological/environmental, social and economic/business interests (World Business Council for Sustainable Development). Development approaches based on this type of model are less likely to meet one of the three core objectives of ESD in Australia, which is 'to protect biological diversity and maintain essential ecological processes and life-support systems' (Ecologically Sustainable Development Steering Committee 1992, 8).

The problem is that the earth's ecosystems and the environment are too crucially important to this and future generations to be balanced particularly with economic growth, which is usually the focus of the economic circle or pillar at the world or

national level. Ecosystems need to be given higher priority in order to ensure that human activity systems (social and economic) do not continue to do significant damage to them (Czech 2000). An example of this is the Australian Government's refusal to ratify the Kyoto Protocol in relation to greenhouse gas emissions, due mainly to the possible negative impact on economic growth over next decade (Hamilton 2003). This indicates a higher priority being given to economic growth by the Australian Government than to the prevention of further damage to the atmospheric ecosystem.

The version of sustainable development or sustainability that is reflected in the overlapping system model tends towards 'weak sustainability' as defined by Bell and Morse (1999). Weak sustainability equates to a sort of economic sustainability where the emphasis is upon allocation of resources and levels of consumption, and financial value as a key element of system quality. The Bell and Morse (1999) definitions of weak and strong sustainability represent points towards either end of a continuum. At the weak sustainability end, economic factors tend to predominate and at the strong sustainability end, ecological factors predominate. Ecological factors are often not measurable in financial terms and include physical measures of soil erosion, biodiversity, dryland salinity etc. The nested system model, discussed below, reflects more of a strong sustainability approach.

The nested system model of ESD

The nested system model recognises the constraints imposed by the earth's eco-system on human activity systems, including the social and economic systems. The *1996 Australia: State of Environment Report* describes the nested system model as:

...the decision-making model needed for an ecologically sustainable future for Australia. It recognises that the economy is a sub-set of society, since many important aspects of society do not involve economic activity. Similarly, it acknowledges that human society is totally constrained by the natural ecology of our planet. It requires integration of ecological thinking into all social and economic planning (Ecologically Sustainable Development Steering Committee 1992; State of the Environment Advisory Council 1996, Ch10, 12).

This holistic perspective, which recognizes the limits imposed by the earth's ecosystems on social and economic systems, indicates that we need to move beyond the triple bottom line for business, which is based on the overlapping system or three pillars model.

The terminology 'ecologically sustainable development' (ESD) is used in this article in preference to either sustainable development or sustainability. This is because some of the forms of sustainable development and sustainability referred to in the literature fail to fully recognise the ecological limits that need to be placed on human activity and reflect weak sustainability (Bell & Morse 1999) as defined and discussed in the previous section. Many of these sustainable development approaches use the overlapping system or three pillars model referred to above in regard to balancing economic, social and ecological or environmental issues (World Business Council for Sustainable Development, n.d.). As also noted above, the ecology of the earth and its ecosystems has to be paramount and be recognised as a higher priority than economic or profit growth in order to progress towards ESD. It is a lack of recognition of this that contributes to the lack of progress towards ESD.

Lack of progress towards ESD

For millions of years, humans had little impact on the earth's ecosystems. However, in the late twentieth century, human population and technology reached a level where human activities began to have major and significant adverse impacts on the earth's ecosystems. The need to redirect our development towards a more ecologically sustainable form of development was increasingly recognised in the 1980s and 1990s following the publication of books such as *Our Common Future* (World Commission on Environment and Development, 1987) and *Beyond the Limits* (Meadows, Meadows & Randers 1992). The World Summit on Sustainable Development (WSSD) in Rio de Janeiro in 1992 and 2 subsequent WSSD meetings have been held to address this crucial global issue.

In 1992, leading scientists also published *Warning to Humanity* (Union of Concerned Scientists), discussing the environmental and resource damage caused by over-consumption in developed countries. During the ensuing decade, however, little progress has been made in addressing the five major challenges that this report identified as needing urgent attention. These were:

- We must bring environmentally damaging activities under control to restore and protect the integrity of the earth's systems we depend on;
- We must manage resources crucial to human welfare more effectively;
- We must stabilize population;
- We must reduce and eventually eliminate poverty;

- We must ensure sexual equality, and guarantee women control over their own reproductive decisions. (Union of Concerned Scientists, 1992, website).

Also in 1992, all Australian governments endorsed the *National Strategy for Ecologically Sustainable Development*. Its core objectives were:

- To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- To provide for equity within and between generations;
- To protect biological diversity and maintain essential ecological processes and life-support systems (Ecologically Sustainable Development Steering Committee 1992, 8).

This National Strategy also included, as one of its guiding principles, the following version of the precautionary principle—‘where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation’ (Ecologically Sustainable Development Steering Committee 1992, 8).

Despite the laudable aims of the National Strategy, Australia and many other developed countries have, over the last decade, continued to increase emissions of greenhouse gases, increase use of non-renewable resources and increase waste production. Despite being unsustainable, economic growth continues to be given much higher priority than ESD in Australia (Christoff 2002) and rest of the world (Czech, 2000). In *In Reverse*, Christoff (2002, 6) describes Australia’s progress towards ESD since 1992 as a ‘decade in reverse’. Professor Daniel Esty of Yale, a leading US environmentalist, stated in 2002 ‘There was no country that had swung more sharply against environmental improvements in the decade since the Rio earth summit than Australia’ (Asia Pulse 2002).

A review of Australia’s National Headline Sustainability Indicators (Environment Australia 2002) found that for most (over 70 percent) of the indicators that related to ecological factors, trend data was not available. This is unlike the economic indicators, three of which related to economic growth and for all of which trend data was available. This may in itself be an indication of the relative priority given to ecological sustainability versus growth in economic activity by the Australian Government and society. For three of the four ecological indicators for which trend data was available, the trend was adverse or negative (McGregor 2003, 38).

Most countries, including Australia and New Zealand, are still focused on economic growth as an overriding priority and as more important than measures to move towards ESD. A recent example of this is Australia's refusal to sign the Kyoto Protocol to reduce greenhouse gases, as the federal government claims that doing so might marginally reduce economic growth (Hamilton 2003).

The corporate sector is one of the key proponents of giving priority to economic growth. The system within which major corporations operate requires them to ensure their survival by continually growing their revenues and profits over time. This continual growth of corporations' revenues and profits is made much easier by the continuing economic growth of the countries in which they operate. This article postulates that this system results in a corporate sector that is much more focused on revenue, profits and economic growth rather than ESD. In addition, due to the large and growing power and influence of the corporate sector on society (Ritz 2001), this results in the corporate sector acting as a major and powerful barrier to ESD, which is difficult to overcome.

Major barriers to progress towards ESD

Lester Milbrath (1994) identified one of the major stumbling blocks to a sustainable society as those key premises supported by leadership groups in most societies, which he called the dominant social paradigm (DSP). One of the key problems that he identifies with the DSP is that it includes continued economic growth. He also identifies the need to move towards what he calls the new environmental paradigm (NEP) to make substantial progress towards ESD. This NEP deeply challenges the DSP and the premises underlying modern industrial societies. The NEP, in my view, represents part of the massive societal change required to make significant progress towards ESD. The business sector in Australia, New Zealand and most other developed countries strongly reinforces the DSP and its focus on economic growth.

Economic growth is an increase in the real value of production and consumption of goods and services produced and sold in a country or region. Economic growth occurs when there is an increase in the multiplied product of population and per capita consumption. The Australian and New Zealand economies grow as an integrated whole consisting of agricultural, extractive, manufacturing, and services sectors that require physical inputs and produce wastes. Economic growth is usually indicated by increases

in the real (prices adjusted for inflation) gross domestic product (GDP) or real gross national product (GNP). Economic growth has been a primary—and remains a perennial—goal of Australian and New Zealand and most other societies and governments.

Established principles of physics and ecology demonstrate there is a limit to economic growth, because there are limited sources of energy and materials and limits to the absorption capacity of the atmosphere (greenhouse gases) and other sinks which the economy uses to absorb waste (based on the nested system model referred to earlier). In simple terms, our current level of economic activities is already above the level of ecological resource constraints; we use too much of the sources that provide the inputs (particularly non-renewable and many renewable resources) and the sinks (rivers, lakes, oceans, atmospheres) that absorb the outputs. Despite this, we seek to increase the level of our economic activities, without seeking to impose conditions on this economic growth that would ensure that the economy is ecologically sustainable.

For example, there is strong and increasing evidence that Australasian and global economic growth (with increased greenhouse gas emissions) is causing substantial and in the short to medium-term irreparable ecological damage to the atmospheric ecosystem and the welfare of future generations in Australia, New Zealand, our Pacific Island neighbours and the world. There has been an increase of global temperatures due to greenhouse gas emissions to levels above those prevalent on earth for 120,000 years (Intergovernmental Panel on Climate Change (IPCC), 2003). The Australian Government, however, still refuses to ratify the Kyoto Protocol despite having one of the highest levels of per capita greenhouse emission of any country in the world (Christoff 2002, 2).

Technological progress has had many positive and negative ecological, economic and social effects and it may be dangerous to depend on it to reconcile the conflict between economic growth and the long-term ecological and societal welfare of Australasia and the world. There is a vigorous debate between the technological optimists and the technological sceptics. The situation is well summarised in Costanza's (1999, 25) article that compares the technological optimists' position—that 'technical progress can deal with any challenge'—with the technological pessimists' position, that 'Progress

should depend less on technology and more on social and community development'. This article argues that the precautionary principle strongly militates against the technological optimist's position as the relatively minor potential negative impacts of taking a more cautious approach are strongly outweighed by the huge ecological problems encountered if the technological optimists are wrong. The business sector tends to support the view of the technological optimists, as it supports 'business as usual' and the DSP referred to earlier.

Economic growth, as gauged by increasing GDP, is an increasingly dangerous and anachronistic goal for any developed country, including Australian and New Zealand (Czech 2000; Douthwaite 1999; Hamilton 2003). Richard Layard (2003) of the London School of Economics portrays it as the paradox at the heart of our civilization, arguing that despite greater income and wealth, people have not become happier. There is also strong and increasing evidence that in most developed countries, such as Australia, continuing economic growth does not increase societal welfare (Daly & Farley 2004; The Australia Institute 2002). This is particularly the case since about 1980 for many developed countries (Daly & Farley 2004).

A steady state economy (that is, an economy with a relatively stable, mildly fluctuating level of GDP) is a viable alternative to a growing economy and has become a more appropriate and necessary goal in making progress towards ESD for Australia, New Zealand, USA, Canada, Japan and almost all of Europe. Economic growth may still be possible but only within system conditions which ensure that it occurs as part of an ecologically sustainable economy. Appropriate system conditions are proposed in a later section of this article.

The long-term sustainability of a steady state economy requires its establishment at a size small enough to avoid the breaching of reduced ecological and economic capacity during expected or unexpected supply shocks such as droughts and energy shortages. A steady state economy does not preclude social and economic development, a qualitative process in which different technologies may be employed and the relative prominence of economic sectors may evolve. It would involve increasing the quality of life of the majority of people worldwide, rather than the quantity of material consumed and accumulated (particularly in developed countries).

In her 1992 book, *Beyond the Limits*, Meadows (1992) quotes from a World Bank Environment Working Paper which clearly recognises the problems with treating economic growth as part of, or analogous to, development. It states that ‘Our planet develops over time without growing. Our economy, a sub-system of the finite and non-growing earth, must eventually adapt to a similar pattern of development.’ The severe and ever-increasing threat to our planet’s eco-systems means that we urgently need to change our societal and business focus from pursuing unsustainable economic growth as a societal priority.

As developed countries move towards a steady state economy, it would also be advisable for them to assist other nations in moving from the goal of economic growth to the goal of a steady state economy, beginning with those nations currently enjoying adequate per capita consumption. For many nations with widespread poverty, increasing per capita consumption (via economic growth) and relieving poverty by more equitable distributions of income and wealth remains an appropriate goal—but again it should only occur within appropriate system conditions to ensure it is ecologically sustainable.

Given the DSP that holds that economic growth is good for society, the environment and ecosystems, the move towards a steady state economy will not be easy. The problem is well exemplified by a statement in 2002 made by US President George W Bush in relation to climate change: ‘Addressing global climate change will require a sustained effort, over many generations. My approach recognizes that sustained economic growth is the solution, not the problem’ (US White House 2002, website).

Why the corporate sector is a major barrier to ESD

This section highlights the major role of the corporate sector in encouraging and reinforcing economic growth as a key part of the ecologically unsustainable DSP. Economic growth is strongly supported by the business sector, particularly larger corporations whose shares are traded on the Australasian and overseas share markets. This is because the economic and financial systems within which these corporations operate require not only that there is a focus on current profits for shareholders, but also on continual growth of profits in the future in order to increase the price of shares in the

corporation (Weston & Brigham 1975). The directors and management of these businesses are also focused on growing profits because poor profit growth often leads to a company being taken over by a competitor, or chief executives and executive management being dismissed by directors (Hanson et al. 2001, 401-402).

Growth of profits is usually achieved through increasing revenues, an outcome that is much easier to achieve in an economy that is growing strongly. This circumstance explains why directors and management of corporations strongly support continued high economic growth. The expectation is that on average, corporate revenues should at least grow at the rate of economic growth—higher for ‘growth’ industries (often those in the high technology sector etc) and slower for mature industries (such as coal, steel, food etc) (Weston & Brigham 1975). There is also pressure on the management of corporations to continually reduce costs to increase profitability. Where this increase in profitability is achieved by dematerialisation or reduced energy usage, it may have some positive impact on ecological sustainability. Where it is achieved by reduced employment, it is likely to have an adverse impact on social sustainability, particularly if the retrenched employees find it difficult to find appropriate new employment.

This leads to the other rationale used by business to support economic growth, the claim that economic growth is necessary to maintain unemployment at acceptable levels (Hayden 1999). According to this rationale, changes such as work-time reduction and other full-employment measures can enable the economy to generate a better quality of life; full, meaningful employment; and a move towards an ecologically and socially sustainable society (Hayden 1999). George’s (2002) proposal for Universal Guaranteed Income would also help overcome this problem.

Most businesses do recognise that they have responsibilities to stakeholders in addition to shareholders, including employees, customers, suppliers, government, society etc (Hanson et al 2001). Some major businesses now report using a ‘Triple Bottom Line’ that includes Economic (Profit/Financial), Social and Environmental aspects (Global Reporting Initiative 2003). Considerations of these other stakeholders and other broader issues, such as ecologically and socially sustainable development, will however always tend to be a secondary issue for corporate businesses due to the way the financial system operates, requiring these corporations to grow profits in order to survive.

The corporate sector is a major barrier to facilitating any transition to ESD, not only because of its extensive advertising which is a major influence in supporting more sales of more goods and services which contribute in turn to economic growth and competitive consumerism (Hamilton 2003). It is also due to the corporations' directors' and executives' powerful political position supporting the strong societal priority given to economic growth. This powerful political position is gained through extensive political party campaign donations and lobbying (Ritz 2001).

It will therefore require major transformation of the social, political and business environment and the governance mechanisms within which it operates to change the current corporate business objectives of seeking continual profit growth and the ongoing reduction of labour costs, which then reinforces unsustainable economic growth and contributes to unemployment. This change is, however, necessary if we are to adhere to the ecological limits of our planet and start the transformation towards a new ecologically and socially sustainable society with a steady state economy and an ecologically and socially sustainable business system (Czech 2000; Daly 1996).

An Ecologically Sustainable Society

Conditions For An Ecologically Sustainable Society

There has been much discussion about achieving sustainable societies and how they would operate. Works that have a perspective similar to that taken in this article include *Beyond Growth* (Daly 1996), *The Principles for a Sustainable Society* (IUCN 1991), *Shoveling Fuel for a Runaway Train* (Czech, 2000), *Envisioning a Sustainable Society* (Milbrath, 1989), *Stumbling Blocks to a Sustainable Society* (Milbrath, 1994) and *A Just and Sustainable Australia* (Yencken & Porter 2001). Milbrath (1994) argues that a NEP is required and that it will need to successfully challenge and overcome the current DSP to make significant progress towards an ecologically and socially sustainable society. Some of the key social norms that the NEP should provide are:

- Adopt a global bioethic
- Protect and nurture natural systems
- Forbid behaviour that may irreversibly injure natural systems;
- Avoid/minimize risky actions.

- Protect and enhance public health.
- Feel compassion/obligation to other species, future generations, and people in other lands
- De-emphasize violence and domination, reject war, enhance conciliation programs
- Provide peace and order
- Enrich work patterns to make work fulfilling
- Emphasize cooperation
- Foster democratic decision-making; enhance participation.
- Enhance freedom so long as it does not injure life systems
- Provide justice/equity
- Encourage holistic thinking and broad-spectrum competence
- Control science and technology.

These are broad social norms and it is hard to translate them to a specific model for a sustainable society or path towards ESD. In order to develop a more specific framework for ESD towards an ecologically sustainable society and an ecologically sustainable business sector, the Natural Step (NS) model will be used. This model postulates the following system conditions required for a sustainable society. Within it, nature is not subject to systematically increased

1. Concentrations of substances extracted from the Earth's crust.
2. Concentrations of substances produced by society
3. Degradation by physical means.
4. And, in that society human needs are met worldwide. (Robert et al., 2002)

Diesendorf has criticised the NS model in regard to its different levels of generality and the limited treatment of the social and economic aspects of sustainable development (1998). In the same paper, Diesendorf, however, accepts that the model provides a strong focus for business and government in controlling flows into the environment and developing measurable indicators of ecological sustainability. The 4th system condition relating to social sustainability is also broad and general. I would, however, argue that as human beings are adaptable creatures there is a wide range of system conditions within which a socially sustainable human society can operate. The focus of this article is therefore mainly on ecological sustainability. There is strong evidence that we are breaching the first three system conditions in a way that is detrimental to the earth's

ecosystems and the welfare of future generations. For this reason, the NS model will be used as a basis in this article for assessing the changes in governance, society, the business sector and possible government policies that could assist in the move towards ESD and an ecologically sustainable society.

Objectives for an ecologically sustainable business sector within an ecologically sustainable society

Based on this NS model, it is possible to formulate objectives for an ecologically sustainable business sector. Those shown below are based on the objectives developed by Robert et al (2002) but have been simplified for the purpose of this article. These objectives are:

1. Eliminate the use of non-renewable resources by businesses and society
2. Eliminate any contribution by businesses or society to increasing the concentration of substances produced by society which have a detrimental effect on eco-systems Ensure that businesses are not over-harvesting or degrading eco-systems
3. Ensure that all businesses provide working conditions that provide employees with reasonable quality of life and contribute to meeting human needs worldwide and the needs of future generations.

As with the societal NS system conditions (referred to above), the first three objectives relate to ecological sustainability. The 4th objective builds upon the social sustainability system condition of the NS model, which is broad and has therefore been made more specific in order to be useful in relation to the business sector.

These objectives have been chosen to be challenging and to represent a future vision or ideal for an ecologically and socially sustainable business sector and to guide the necessary societal and business sector change. They can also provide a framework for strategic policy and other decision-making required to move society towards an ecologically sustainable future. As society starts the important, urgent and necessary move towards ESD, governments will develop laws, regulations, taxes and other policy measures to encourage or enforce ecological sustainability on businesses and the rest of society (Holmberg & Robèrt 2000). These are discussed further in the following section.

Societal and governance changes that would facilitate transition to an ecologically sustainable business sector and society

Governance for ESD

The World Humanity Action Trust defines governance as ‘the framework of social and economic systems and legal and political structures through which humanity manages itself’ (2000, 7). Governance comprises the institutions, processes and traditions, which determine how power is exercised, how decisions are taken and how citizens have their say.

The OECD Public Management program focuses in particular on the principal elements of good governance, namely:

Accountability: government is able and willing to show the extent to which its actions and decisions are consistent with clearly defined and agreed-upon objectives.

Transparency: government actions, decisions and decision-making processes are open to an appropriate level of scrutiny by others parts of government, civil society and, in some instances, outside institutions and governments.

Efficiency and effectiveness: government strives to produce quality public outputs, including services delivered to citizens, at the best cost, and ensures that outputs meet the original intentions of policymakers.

Responsiveness: government has the capacity and flexibility to respond rapidly to societal changes, takes into account the expectations of civil society in identifying the general public interest, and is willing to critically re-examine the role of government.

Forward vision: government is able to anticipate future problems and issues based on current data and trends and develop policies that take into account future costs and anticipated changes (e.g. demographic, economic, environmental, etc.).

Rule of law: government enforces equally transparent laws, regulations and codes. (OECD PUMA 2004)

Good governance may assist the societal and business transition to ESD, but there needs to be a re-direction of the focus that international, national and regional governance is trying to achieve at a societal level, in order that significant progress can be made. Once the pressure to make more and more of the same is dispelled, human ingenuity can be turned to making life better and better with much less resource use and no pollution or emissions. Such a society is likely to be even more innovative and creative than our current one (Coulter 2003). This next section identifies some of the governance and societal changes that re-directing governance towards ESD could make or seek to achieve.

Governance Principles for 'Sufficiency' and 'Sustainability'

Princen (2003) proposes some sufficiency principles as underlying social organizing principles for a sustainable society. These principles are summarised below:

- *Restraint*, the behavioral tendency of using less than what is physically or technically or legally or financially possible. Restraint is invoked when ever-increasing use has immediate and tangible benefits yet causes long-term, often intangible and invisible, negative impacts;
- *The precautionary principle* states that corrective action is warranted in the face of critical environmental threats even if the science is not conclusive. All Australian governments endorsed a version of the precautionary principle in the National Strategy for Ecologically Sustainable Development in 1992;
- *Polluter pays* principle states that those actors primarily responsible for degradation pay for clean-up and amelioration;
- *The zero principle* extends the precautionary principle by stating that compromise solutions—a 'balance' between jobs and the environment, for instance—are unacceptable when such compromises serve only to postpone a real solution. Put differently, with critical threats, in the long-term the only solution is to halt the environmental insult.
- The principle of *reverse onus* states that the burden of proof is on those who would intervene into critical life support systems. At present one can harvest a forest or invent a chemical and it is the responsibility of others—downstream residents, regulators, atmospheric or oceanic scientists, environmentalists, waste managers and organised labour union representatives—to demonstrate harm.

Good governance based on these sufficiency and sustainability principles and the natural step system conditions also outlined previously would represent a sound basis for making progress towards ecologically and socially sustainable society. The next section focuses on some of the problems in moving towards the first 'sufficiency principle' of restraint.

From competitive consumerism to 'enoughness'

Major changes at the societal level will be required to move from the current DSP to a NEP (Milbrath 1994). The dominant culture in Australasian, North American and most European societies has come to associate happiness with growing disposable income

and spending more (both of which are dependent on economic growth). There is strong and increasing evidence that beyond a certain level (which most developed countries reached in the 1960s or 70s) increased spending, resulting in increased GDP, does not make us happier or increase societal welfare (Brink & Zeeman 1997; The Australia Institute 2002). There is no doubt that developed countries have sufficient productive capacity to provide adequate food, shelter, clothing for their citizens (that is, comply with the 4th system condition in the natural step model in relation to meeting basic human needs—at least in their own country—if not worldwide).

The consumer culture that is strongly encouraged by the corporate sector is another major barrier to ESD. As Vicki Robin states ‘it is not too hard to imagine a simple life, richly lived’ (2002). She then goes on to encourage ‘enoughness’ as a way of changing the economy to a more ecologically and socially sustainable model. It will not be easy to move from the current rampant competitive consumer society, where people strive for bigger houses, faster cars, larger freezers, etc to a steady state economy wherein the quality of life is more important than the size, speed and quantity of consumer goods possessed. Such a shift will also require significant societal change. This societal change would be made easier if the corporate sector was not driven and constrained by the system within which it currently operates that makes corporations strive for continual revenue and profit growth fuelled by increased consumption.

Until substantial societal change occurs, government is not going to start to move from the current Dominant Social Paradigm to the New Environmental Paradigm required for ESD. In a survey of the Australian public environmental protection was chosen over economic growth by a ratio of 6-to-1, and in the US 61 percent chose environmental protection over economic growth, with 28 percent choosing economic growth over environmental protection (Milbrath 1989). More recent data published in 2004 indicated that:

Nine out of ten people in NSW rate the environment as an important personal priority in their lives, after family and friends. Fifty four percent of people say the environment is very important in their lives and a further 38 percent say it is rather important. The environment is ranked above leisure and work as a valued personal priority. (NSW Department of Environment, December 2004, 28)

Despite this strong popular support, there seems to be little progress towards ESD. I would argue that one of the major reasons for this has been the substantially increased power of the corporate elite in Australia and in most other developed countries

(Monbiot 2000) and their reinforcement of the DSP. Some of the largest multinational corporations have revenues larger than the total GDP (money spent on goods and services etc) of Australia (Anderson & Cavanagh 2000). In many cases, the power of corporations is such that they can negotiate special deals with national governments for 'tax holidays' and other concessions, particularly if they are proposing a major investment and it can be feasibly be located in more than one country. Ericsson, the Swedish Electronics company, is reported to have threatened to relocate its world headquarters from Sweden because of the high tax rates imposed in that country; more recently it has warned Sweden not to reject the invitation to join the Euro currency system (AFP 2003). James Hardie relocated the legal domicile of its parent company and world headquarters away from Australia for tax and other reasons (Hardie 2001). It has recently become clear that trying to avoid potential liability payments to Australian victims of its asbestos activities was one of the major reasons for the relocation (Sydney Morning Herald 2004).

Despite the increasing power of corporations (Monbiot 2000; Ritz 2001), governments (encouraged by popular support) are likely to be the most effective mechanism to move society towards ESD and to control corporations. In plenary session at the 1992 Rio Earth Summit, Stefan Schmidheiny, chairman of the Business Council for Sustainable Development called for a bold new governance partnership between business and governments. 'Business must move beyond the traditional approach of backdoor lobbying: governments must move beyond traditional over-reliance on command-and-control regulations' (Ward, Borregaard & Kapelus 2002). Governance, society, governments and businesses all have to change substantially in order to enable significant progress to be made towards ESD.

Government and governance policies to ensure an ecologically sustainable business sector

As outlined previously, the financial system within which corporate businesses currently operate makes it unlikely that business will become ecologically and socially sustainable, without significant social pressure and government intervention. However, in conjunction with substantial societal change and social pressure, governments are in a powerful position to compel businesses to change in the direction of ESD. This section provides an overview of some the governance initiatives and policies that could be adopted to ensure businesses become more ecologically sustainable.

A government could implement all of the policies or measures, outlined below, concurrently. Some consideration would need to be given to how these policies and measures would interact. Their interaction should mainly be mutually reinforcing in progressing the required societal and business sector transition towards ESD, as they are all based on moving society and the business sector towards the four system conditions for an ecologically and socially sustainable society and the four objectives for an ecologically sustainable business sector.

Licence to operate a business

Governments could require businesses to operate in an ecologically sustainable manner or withdraw their licence to operate. The idea of licensing businesses and making them prove that they are operating in the public interest is far from new; in fact it was applied in the late 18th and early 19th century in the United States, where charter corporations had to apply at the end of their charter (usually 20 years) to have it renewed by the relevant state legislature. This arrangement allowed the state legislatures to only renew charter for corporations where the directors and management could show they were operating in the public interest as well as management and shareholders'/investors' interests (Ritz 2001). Given the resources of many corporations (e.g. Microsoft, General Electric etc) and the wide diversity of shareholders, particularly institutional investors for pension funds etc, there would be a lot of pressure on legislatures in today's context to renew the charter.

This process of renewing licences to operate businesses could be based on the business being required to justify that it was complying with the four objectives for an ecologically sustainable business. If the business was not achieving these objectives, its licence may only be renewed for five years, rather than a standard ten years—with the possibility of the license not being renewed after five years, unless by that time the business was meeting the required standards.

Such a government requirement to operate according to the four objectives is less radical than the proposal made in a recent article in *Ecological Economics* that suggested all corporations should be forced by government to become non-profit (Lux 2003). Lux's suggested approach, which is somewhat similar to the state ownership of enterprises used in the USSR and Eastern Europe in most of the late 20th Century,

would eliminate the incentive to continually improve businesses products, services and efficiency, in order to enhance profitability. The elimination of this continual improvement element had clear disadvantages when tested in the USSR's and Eastern European model of state ownership of production.

License to manufacture products or provide commercial services

Eco-efficient products that meet the same needs and provide similar functionality to current products are desirable alternatives from the point of view of ESD. Examples of such products include household electronics (VCRs, TVs etc), for which research has shown that the stand-by power consumption of certain household electronics is 50 times lower than others (Australian Greenhouse Office 2003). A 'license to manufacture' system is one way to allow only those products close to best practice in eco-efficiency to be produced. Similar licenses to enforce standards for eco-efficiency could be imposed on service businesses and non-profit organisations. Over time, eco-efficiency standards can also be increased so that all products and services provided by the business sector are produced within the standards required by the three objectives for an ecologically sustainable business sector.

Government to auction licenses to use resources

A policy related to the auctioning of licenses to use non-renewable resources would have significant impact on progress towards ESD, in particular with regard to fulfilling the ESD objective of ensuring equity for future generations. For non-renewable resources, these licenses should allow ever-decreasing usage each year, to encourage a movement away from further depletion. Ideally, this should be done in such a way that the usage of non-renewable resources would be eliminated before reasonably accessible supplies were fully depleted or exhausted. By issuing licenses for continually decreasing amounts of non-renewable resources to be used, governments would force businesses to continually reduce the amount of non-renewable resources used and help move the business sector towards being ecologically sustainable.

For renewable resources—fish, water etc—-independent experts would be required to establish a rate at which the renewable resource could be used or harvested without depletion or damage to the resource or the ecological systems which use the resource. It is recognised that establishing such rates and *adhering* to them may present an even greater challenge in relation to renewable resources in the global commons. Already

major difficulties have been encountered dealing with localised situations, as witnessed for example, by the difficulties Australian authorities have had trying to stop unsustainable fishing of Patagonian tooth fish. Experts in this case have determined sustainable fishing levels but illegal over-fishing is threatening to destroy breeding stocks of this extremely rare and prized fish (ABC 2003).

Government to ensure work time reduction

Governments, particularly in developed countries, need to encourage their constituents to produce less, consume less and work shorter hours to facilitate the move towards an ecologically and socially sustainable steady state economy. Hayden puts it succinctly: ‘we need a vision of spending time with the Joneses – rather than keeping up with them’ (1999). Unlike rewarding more work with more money that flows into the economy and creates more economic growth, by rewarding workers with more leisure time, we can have less consumption and less production. Many of the workers in developed countries today are often poorer in real terms, and spend more time at work than 30 years ago and less time with family and on leisure activities. Real gains in productivity have actually translated into making shareholder elites and upper management obscenely rich (Hayden 1999).

Work time reduction can contribute both to ecological (earning less, consuming less, travelling less) and social sustainability—more time for relationships, families, volunteer work and leisure—major contributors to societal happiness (Hamilton 2003). It can therefore contribute to all four societal system conditions and the four objectives for an ecologically sustainable business sector specified previously.

Universal guaranteed income and maximum allowable wealth

In his book, *Theory of Justice* Rawls proposes that the level of inequality needed in a just society is that level of inequality that results in the poorest in society faring the best economically (1999). That is, the level of incentive is enough to encourage people, but that incentives are not so huge that the poor are made poorer. In today’s societies, the remuneration packages received by corporate chief executives and other senior corporate executives are well beyond the level required to provide enough incentive to do the job well. In the interesting book, *Socioeconomic Democracy*, George proposes a ‘universal guaranteed income’ and a ‘maximum allowable wealth’ as a way of reducing the gap between rich and poor and developing a more socially sustainable society

(2002). This approach could make a major contribution to the fourth societal system condition of the NS model relating to meeting human needs worldwide, as many individuals have much more wealth than they could ever need and a universal guaranteed income would assist in moving those in severe poverty from the necessity to clear rainforest and destroy eco-systems in order to eke out a basic subsistence existence.

An ecologically and socially sustainable tax system

Governments should heavily tax unsustainable activities and the use of non-renewable resources and use selective subsidies to encourage more sustainable alternatives, including use of renewable alternatives (e.g., energy). Higher rates of goods and services taxes should also be levied on goods and services that use non-renewable resources.

Moving the tax burden from earned income from employment earnings to taxing unearned/investment income of people able to support themselves would assist in social sustainability. Savings should still be encouraged but for the purpose of self-funded retirement income provision that will be increasingly required given the aging population in Australasia and most other developed countries. Progressive taxation of higher income earners should also assist in social sustainability, or governments could move closer to the 'universal guaranteed income' and 'maximum allowable wealth' concepts discussed in above (George 2002).

Ecologically and socially progressive taxation systems are an efficient way of re-orienting the market mechanisms towards more ecologically and socially desirable outcomes. Markets can be efficient in allocating renewable resources—but tend to under-value non-renewable resources—which are clearly of value for future generations as well as the current users and consumers.

Government or social non-profit ownership of infrastructure

It is inefficient in Australia (both in ecological and economic terms), to have two fibre optic cable networks (Andrews 2002), and three or more sets of mobile telephone towers and relay stations etc. There are certain types of infrastructure, usually basic utilities that are natural monopolies (e.g., water supply distribution, electricity and gas distribution, telephone—mobile and landline, including fibre cable infrastructure).

Government or non-profit social organisations (owned by users) would be a better way to increase the ecological sustainability of these enterprises rather than ideologically driven competition and privatisation policies. It is an enormous waste of resources—mostly non-renewable—to have duplicate networks for natural monopolies such as electricity, water, gas distribution, local telephone services etc. It is also difficult to successfully regulate the providers—but if the providers are non-profit mutual organisations (owned by users) or government owned, the incentive for over-charging (by negotiating higher prices than required with the regulator) is largely eliminated. Mutual ownership by users may be more efficient than the government ownership approach, as the users are likely to be focussed on the utility providing reliable service at minimal cost.

In the US, where many of the natural monopolies in infrastructure and utilities are privately owned but regulated, there is evidence that government regulators have lost the battle to defend the public interest as a consequence of being out-negotiated by better-resourced private utilities. The major blackout of 2003 in the northeastern USA also provides some evidence that the US ‘private’ infrastructure model may not be the best, as it appears to be less reliable than many European or Australasian electricity grid systems.

4. International governance

Many of the environmental and social issues we face are global rather than national. For example, the consensus view of the International Panel on Climate Change is that a global reduction of between 60-80 percent is required (well beyond the 5 percent proposed in the Kyoto Protocol) to stabilise atmospheric concentrations of carbon dioxide at current levels (Yencken, 2002). Current levels may already be higher than ideal. Other environmental and social problems (poverty, hunger, terrorism) will also need improved international governance.

Redirecting money from military spending to ecological and social spending

In ‘Stumbling blocks for a sustainable society’ Milbrath urged the world to ‘reject war’ and ‘provide peace and order’ (1994). The redirection of military spending in Australia, which the government has recently planned to increase from around \$10 billion per year to \$15.3 billion per year (over \$40 million per day) (Doherty 2003) to health,

education and social welfare would make a substantial contribution to increased social sustainability in Australia. Redirecting the huge US military budget, which represents over 50 percent of the world's military expenditure, could make a huge contribution towards global ESD.

The fourth system condition of the NS model states 'in that society human needs are met worldwide' (Robert et al 2002). International governance that focused on ESD would seek the re-direction of a significant proportion of the huge military expenditures of North America, Europe and Australia towards providing food, shelter and basic healthcare for the poor of the world would make a major contribution towards meeting this condition. Many of those living in severe poverty worldwide contribute significantly to environmental and ecological degradation through their efforts to subsist and survive.

5. Conclusions

At every level the greatest obstacle to transforming the world is that we lack the clarity and imagination to conceive that it could be different. Roberto Unger (Smolin 1997)

Economic growth, driven largely by the corporate sector, continues to stop Australia, New Zealand and most other countries making significant progress towards ESD. The system within which the corporate sector operates requires that directors and management of large share market-listed corporations focus on continually growing profits to increase the value of the shares, in order for the corporations to survive and not be taken over. We therefore urgently need an end to unsustainable 'business as usual' from almost every business because our planet's eco-systems are under severe and increasing unsustainable pressure from our human activity systems—in particular our economic and business systems.

Ensuring that society moves towards ESD and businesses move towards an ecologically and socially sustainable business model will not be easy but it is important, urgent and necessary. The natural step's four system conditions for ecological and social sustainability provide a framework for developing objectives for the business sector within a sustainable society. Major societal change is required before significant progress towards ESD can commence. This societal change will result in a range of major government measures to ensure ecological and social sustainability of the business sector. Some examples of these include business and product licensing,

steadily increasing restrictions on use of non-renewable resources, policies to ensure that renewable resources are only harvested at or below their replenishment rate, ecological tax systems, work-time reduction and income guarantees to encourage ecologically sustainable behaviour by both business and consumers.

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