

# AN ECOLOGICALLY SUSTAINABLE BUSINESS SECTOR WITHIN AN ECOLOGICALLY SUSTAINABLE SOCIETY

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## ABSTRACT

The concept of Ecologically Sustainable Development has emerged from a recognition that all terrestrial systems, be they natural or human, are interconnected. Ecologically Sustainable Development therefore requires that all our social and economic systems must operate in a way that sustains the earth's ecosystems for future generations.

Australasian societies continue to be ecologically unsustainable. One major reason is the strong and continuing societal focus on economic growth and businesses' focus on profit growth. These increasing profits are achieved through growth in revenues, usually with increased resource use and often with increased pollution and waste. The paper, therefore, focuses primarily on the business sector and proposes societal changes and government policies that would ensure businesses contribute towards Ecologically Sustainable Development.

Major societal changes are needed if we are going to make significant progress towards Ecologically Sustainable Development. This will result in governments adopting much more radical policies to ensure an ecologically sustainable business sector. The Natural Step system conditions for ecological and social sustainability are used as a basis for identifying societal changes, ecologically sustainable business sector objectives and for developing a range of government policy measures to ensure that businesses and society functions in an ecologically and socially sustainable way.

Amongst the government policy changes recommended, are business and product licensing, 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.

## KEYWORDS

Ecologically sustainable development, ecologically sustainable business, sustainable development

## 1 INTRODUCTION

This paper seeks to identify ways of ensuring that the business sector contributes to the needed move Australia and New Zealand towards Ecologically Sustainable Development (ESD). It begins by identifying the major reasons for the lack of progress towards ESD in Australia, New Zealand and most other developed countries. The financial and business systems within which the major corporations operate are identified as one of the major reasons for this lack of progress.

Having briefly reviewed possible approaches to sustainable societies, it then uses 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 businesses operate, in order to reorient them

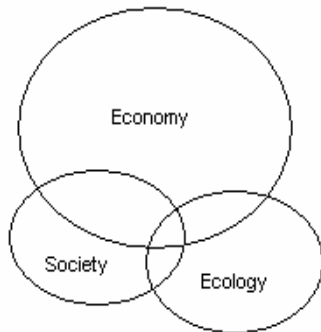
towards being ecologically and socially sustainable. Finally, the paper identifies and reviews options for society and governments to move towards ESD and to ensure that all businesses are ecologically sustainable.

## 2 PROGRESS TOWARDS ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

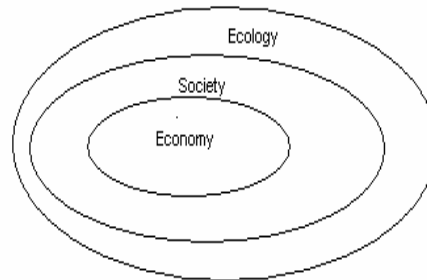
### 2.1 MODELS OF SUSTAINABLE DEVELOPMENT

This section reviews briefly the 2 predominant models of sustainable development from the sustainable Development literature. This will help define how this paper conceptualises Ecologically Sustainable Development and how this relates to a Sustainable Society. These two models were illustrated in the following diagrams based on those included in the *1996 Australia: State of Environment Report*.

**Overlapping System Model of SD**  
(Three Pillars model)



**Nested System Model of ESD**  
(Russian Doll model)



*Figure 1: Two Different Models of SD*

Source: (State of the Environment Advisory Council 1996 Ch10 p12)

#### 2.1.1 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. This, therefore, makes them much 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” (Commonwealth Government 1992). The problem is that the earth ecosystems and the environment are too crucially important to future generations to be balanced particularly with economic growth, which is usually the focus of the economic circle or economic pillar at national level. Ecosystems need to 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 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 preventing further damage to the atmospheric ecosystem.

The version of ESD that is reflected in the overlapping system model tends towards “Weak Sustainability” as defined by Bell and Morse (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 is a key element of system quality.

The Bell and Morse 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 (Bell and Morse 1999). 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.

### **2.1.2 THE NESTED SYSTEM MODEL OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT**

The nested system model recognises the constraints imposed by the earth's eco-system on our 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" (State of the Environment Advisory Council 1996).

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 3 pillars model (World Business Council for Sustainable Development Accessed June 2003).

The terminology "Ecologically Sustainable Development (ESD)" is used in this paper in preference to "Sustainable Development" at a country or global level, as some of the forms of Sustainable Development 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 and Morse 1999) as defined and discussed in the previous section. Many of these "Sustainable Development" approaches use the overlapping system model or three pillars model referred to above in regard to balancing economic, social and ecological or environmental issues (World Business Council for Sustainable Development Accessed June 2003). As also noted above and discussed in more depth in the following section, the ecology of the earth and its ecosystems has to paramount and recognised as higher priority than economic or profit growth, particularly in developed countries.

## **2.2 LACK OF PROGRESS TOWARDS ECOLOGICALLY SUSTAINABLE DEVELOPMENT**

For millions of years, humans had little impact on the earth's ecosystems. However, in the late 20<sup>th</sup> century, human population and technology reached a level where human activities began to have a significant adverse impact on the earth's ecosystems. The need to redirect our development towards a more ecologically sustainable forms of development was increasingly recognised in the 1980's and 1990's following the publication of books, such as *Our Common Future (World Commission on Environment and Development 1987)* and *Beyond the Limits (Meadows 1992)*. The World Summit on Sustainable Development (WSSD) in Rio in 1992 and 2 subsequent WSSD meetings have been held to address this crucial global issue.

In 1992, leading scientists also published a "Warning to Humanity" in regard to the environmental and resource damage caused by over-consumption in the developed countries (UCS 1992). During the ensuing decade, however, little progress has been made in addressing the 5 major challenges that the UCS 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."

Also in 1992, all Australian governments also endorsed a “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.

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”(Commonwealth Government 1992).

Despite the very 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. Despite being unsustainable, economic growth continues to be given much higher priority than Ecologically Sustainable Development (ESD) in Australia (Christoff 2002) and throughout the world (Czech 2000) (this will be discussed further in Section 2.4.1. Why Economic Growth is a major barrier to ESD). The *In Reverse* report (Christoff 2002) describes Australia’s progress towards ESD since 1992 as a “decade in reverse”. Professor Daniel Esty of Yale, a leading US environmentalist stated in 1992 “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).

In a review of Australia’s National Headline Sustainability Indicators (Environment Australia 2002), it was found that for most (over 70%) 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 was available. This may in itself be an indication of relative priority given to ecological sustainability versus growth in economic activity by the Australian Government and society. For 3 of the 4 ecological indicators for which trend data was available, the trend was adverse or negative (McGregor 2003).

## **2.3 BUSINESS AS USUAL RATHER THAN ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)**

After three World Summits on Sustainable Development (the most recent in Johannesburg in 2002) and many publications, speeches etc – it seems that we are back to business as usual and it is difficult to identify any significant progress towards ESD, particularly in Australia (Christoff 2002) and the US (Czech 2000). The reasons for this lack of progress are also difficult to clearly identify due to the high level of complexity involved in global societal change. An increasing number of experts and academics are, however, arguing that the lack of progress is because economic growth is incompatible with ESD (Milbrath 1994) (Daly 1996; Czech 2000). 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 it might marginally reduce economic growth (Hamilton 2003). This is discussed further in the Section 2.4.1 Why Economic Growth is a Major Barrier to ESD.

The corporate sector is one of the key proponents of economic growth. The system within which major corporations function requires of them, to ensure their very survival, to continually grow their revenues and profits over time. This growth of corporations’ revenues and profits is made much easier by continuing economic growth of the countries in which they operate. This paper postulates that the way overall business system operates results in a corporate sector very much more focused on revenue, profits and economic growth rather than ESD. The characteristics of the system that cause this will be discussed in more detail later in the paper in Section 2.4.2 Why the Corporate Sector is a Major Barrier to ESD. In addition, due to the large and growing power and influence of the corporate sector on society (Monbiot 2000) (Ritz 2001), this results in the corporate sector acting as a major barrier to ESD, which is difficult to overcome.

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”. She then goes on to encourage

“enoughness” as a way of changing the economy to a more ecologically and socially sustainable model (Schor and Taylor 2002). 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 where the quality of life is more important than the size, speed and quantity of consumer goods possessed. Such a shift will 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 operates which makes corporations strive for profit growth, as will be discussed in Section 2.4.2. Why the Corporate Sector as a Major Barrier to ESD.

## **2.4 BARRIERS TO ESD**

Lester Milbrath identified one of the major stumbling blocks to a sustainable society is the key premises held by the leadership groups in most societies which he called the Dominant Social Paradigm (DSP) (Milbrath 1994). 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 and 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. The system, particularly the financial system, within which major businesses operate focuses these businesses on maintaining economic growth as a major societal priority. In this paper, I argue, supported by many other experts (Daly 1996; Douthwaite 1999; Czech 2000; Hamilton 2003), that economic growth is incompatible with ESD. Both of these major issues will also be discussed in more detail in the next sections of the paper in order to more clearly identify the barriers to ESD created by the societal priority given to economic growth that is strongly supported, encouraged and reinforced by the Corporate Sector.

### **2.4.1 WHY ECONOMIC GROWTH IS A MAJOR BARRIER TO ESD**

“Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist.” - Kenneth Boulding (Boulding 1965)

This is a very controversial topic and it is one of the critical and fundamental differences between the Dominant Social Paradigm and the New Environmental Paradigm referred to above (Milbrath 1994). The following position is adapted for Australasia from material developed by Brian Czech for consideration by the US Society for Ecological Economics (circulated to me via an Ecological Economics email group). It also builds upon his excellent book on the subject – *Shoveling Fuel for a Runaway Train* (Czech 2000).

Economic growth is an increase in the production and consumption of goods and services produced in a country or region. Economic growth occurs when there is an increase in the multiplied product of population and per capita consumption and the Australia 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 perennial goal of Australian and New Zealand and most other societies and governments.

Based upon established principles of physics and ecology, there is a limit to economic growth, because there is limited sources of energy and materials and limits to 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 economic activities are already above the level of the ecological resource constraints, using 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 grow our level of economic activities.

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 Australia 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).

Technological progress has had many positive and negative ecological and economic effects and may not be depended on to reconcile the conflict between economic growth and the long-term ecological and societal welfare of the Australasia and the world. This is where there is a vigorous debate between the technological optimists and the technological skeptics. The situation is well summarised in Robert Costanza's article – which compares the technological optimists' position "Technical progress can deal with any challenge" with the technological pessimists position "Progress should depend less on technology and more on social and community development" (Costanza 1999). Costanza's article goes on to argue that the precautionary principle strongly militates against the technological optimist's position as the potential negative impact of taking a more cautious approach are very 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 Dominant Social Paradigm 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 (Douthwaite 1999; Czech 2000; Hamilton 2003). 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 to progress towards ESD for Australia, New Zealand, USA, Canada, Japan and almost all of Europe.

The long-run 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 stuff consumed and accumulated (particularly in developed countries). It will require re-directing the economy from quantity to quality and increased emphasis on "families and communities built on values of love, obligation and reciprocity" (Folbre 2001).

At the start of her 1992 book, *Beyond the Limits* (Meadows 1992) Donella Meadows 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 very severe and ever increasing threats 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 towards a steady state economy, it would also be advisable for the developed countries 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 (in some cases via economic growth and in other cases via more equitable distributions of wealth) remains an appropriate goal. (This represents the end of the section that builds upon Brian Czech's material on the ecological and other problems caused by economic growth.)

Given the Dominant Social Paradigm 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 2002 statement by US President George 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).

The next section highlights the major role of the Corporate Sector in encouraging and reinforcing economic growth as a key part of the ecologically unsustainable Dominant Social Paradigm.

## **2.4.2 WHY THE CORPORATE SECTOR IS A MAJOR BARRIER TO ESD**

Economic growth is strongly supported by the business sector, particularly larger corporations whose shares are traded on the Australasian and overseas sharemarkets. 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 and Brigham 1975). The directors and management of these businesses are also focussed on growing profits because poor profit growth often leads to a company, being taken over or a change of Chief Executive and executive management by the Directors (Hanson, Dowling et al. 2001). If the business is taken over, job losses among the directors, staff and the management of that business are commonplace (Hanson, Dowling et al. 2001).

Growth of profits is usually achieved through increasing revenues, which is much easier in an economy that is growing strongly, hence the reason for the directors and management of corporations strongly supporting continued high economic growth. The expectation is that on average, corporate revenues at least grow at the rate of economic growth - higher for "growth" industries (often high technology etc) and slower for mature industries (established industries – coal, steel, food etc) (Weston and 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. Business claims that economic growth is necessary to maintain unemployment at acceptable levels (Hayden 1999). A change is required so that by work time reduction (discussed further in Section 4.6) and other full employment measures, we can generate a better quality of life and full meaningful employment and move towards an ecologically and socially sustainable society (Hayden 1999). George's proposal for Universal Guaranteed Income (George 2002) discussed in Section 4.8 would also help overcome this problem.

Most businesses do recognise that they have responsibilities to other stakeholders (employees, customers, suppliers, government, society etc) (Hanson, Dowling et al. 2001) and some major businesses are reporting on a Triple Bottom Line - Economic (Profit/Financial), Social and Environmental (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 businesses due to the way the system operates requiring businesses to grow profits in order to survive.

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

## **3 AN ECOLOGICALLY SUSTAINABLE SOCIETY**

### **3.1 CONDITIONS FOR AN ECOLOGICALLY SUSTAINABLE SOCIETY**

There has been much discussion of sustainable societies and how they would operate. Those that have a perspective similar to that taken in this paper include *Beyond Growth* by Herman Daly, *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 and Porter 2001). These are all worthwhile contributions to envisioning an ecologically sustainable societies contributing to global ESD.

As discussed earlier in the paper, Milbrath argues that a New Environmental Paradigm (NEP) is required and will need to successfully challenge and overcome the current Dominant Social Paradigm to make significant progress towards a Sustainable Society. Some of the key social norms represented by the New Environmental Paradigm (Milbrath 1994) are shown below:

- 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 very broad social norms and it is hard to translate them to a specific model for a sustainable society or path to 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 for a sustainable society. “In the sustainable society, nature is not subject to systematically increasing...

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, Schmidt-Bleek et al. 2002)

There are criticisms of the (NS) model in regard to its different levels of generality and the limited treatment of the social and economic aspects of sustainable development (Diesendorf 1998). Diesendorf, in that paper however, accepts that the NS model provides a strong focus for business and government in controlling flows into the environment and developing measurable indicators of ecological sustainability. The 4<sup>th</sup> system condition relating to social sustainability is also very broad and general. I would, however, argue that as human beings are very adaptable creatures there is a very wide range of system conditions within which a socially sustainable human society can operate. The focus of this paper is therefore mainly on ecological sustainability where there is strong evidence that we are breaching the first 3 system conditions in a way which is detrimental to earth’s ecosystems and the welfare of future generations. For this reason, the NS model will be used as a basis in this paper for assessing the changes in society, the business sector and possible government policies needed to move towards ESD.

### **3.1.1 SWEDEN – A SUSTAINABLE SOCIETY BY 2020**

Sweden is an example of one of the few countries in the world that has committed itself to becoming a Sustainable Society within the next 20 years. It has not yet, however, abandoned economic growth as a societal priority.

The Swedish Government has set objective of becoming an Ecologically Sustainable Society by 2020. (An objective that in my opinion, every other country should also be aiming for.) It defines a sustainable society as “a society in which the major environmental problems have been solved, with a flourishing natural and cultural environment”. This report also establishes 15 environment quality objectives based on five fundamental principles of ESD, which are:

- Promotes human health
- Preserves biological diversity
- Preserves cultural and historical
- Maintains the long-term productive capacity of ecosystems
- Ensures prudent management of natural resources. (Swedish Ministry of the Environment 2001)

It is interesting to note that economic growth is not part of the 5 fundamental principles of ESD used by Sweden. The Swedish National Sustainability Indicators are the only set of national indicators of sustainable development that I have found that does not include growth of GDP (or a similar measure) as a key sustainable development indicator (Statistics Sweden & the Swedish Environmental Protection Agency 2001). The Headline Sustainability Indicators for Australia includes 3 indicators that relate to growth of GDP out of a total of 24 indicators (Environment Australia 2002).

### **3.2 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 (Robert, Schmidt-Bleek et al. 2002) but have been simplified for the purpose of this paper. These objectives are:

1. Eliminate the use of non-renewable resources by businesses and society
2. Eliminate any contribution to increasing the concentration of substances produced by society which have a detrimental effect on eco-systems by businesses or society
3. Ensure that businesses are not over-harvesting or degrading eco-systems
4. 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 3 objectives relate to ecological sustainability. The 4<sup>th</sup> objective builds upon the social sustainability system condition of the NS model, which is very 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 government policy measures to encourage or enforce ecologically sustainability on businesses and the rest of society (Holmberg and Robert 2000). These are discussed further in the following section.

## **4 SOCIETAL CHANGE REQUIRED TO FACILITATE TRANSITION TO AN ECOLOGICALLY SUSTAINABLE BUSINESS SECTOR**

### **4.1 FROM COMPETITIVE CONSUMERISM TO “ENOUGHNESS”**

Although the Corporate Sector is a major barrier to overcome to facilitate the 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 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 also require major changes at the societal level to move from the current Dominant Social Paradigm to a New Environmental Paradigm (Milbrath 1994). The dominant culture in Australasian and North American and some European societies associate happiness with growing disposable income and spending more (which are

dependent on economic growth. However, there is strong and increasing evidence is 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 (Hamilton 2003) (Brink and Zeesman 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 4<sup>th</sup> system condition in the Natural Step model in relation to meeting basic human needs – at least in their own country – if not worldwide).

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% chose environmental protection over economic growth, with 28% choosing economic growth over environmental protection (Milbrath 1989). Despite this strong popular support, there seems to be little progress towards ESD as previously discussed in Section 2 of this paper.

I would argue that one of the major reasons for this has been the substantially increased power of the directors and executives in corporate sector in Australia and in most other developed countries (Monbiot 2000) and their reinforcement of the Dominant Social Paradigm. The very large multinational corporations have revenues almost as large as the total GDP (money spent on goods and services etc) of Australia and many are much larger than the total New Zealand economy (Anderson and Cavanagh 2000). In many cases, the corporate power is such that they can negotiate special deals with national governments for tax holidays, 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 due to the high tax rates in that country and more recently if Sweden rejected joining the Euro currency system (AFP 2003). James Hardie, the Australian company relocated the legal domicile of the parent company and the world headquarters away from Australia for tax and other reasons (Hardie 2001).

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. Some government measures to do this are proposed in Section 4.3.

#### **4.2 REDIRECTING \$ FROM MILITARY SPENDING TO ECOLOGICAL & SOCIAL SPENDING**

In the social norms for a Sustainable Society (Milbrath 1994), outlined previously these include “reject war” and “provide peace and order”. 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 \$40m per day) (Doherty 2003) to health, education and social welfare would make a very substantial contribution to increased social sustainability in Australia. Redirecting the huge US military budget, which represents over 50% of the world’s military expenditure, could make a huge contribution towards global ESD.

In terms of the 4<sup>th</sup> System Condition of the NS model, “that society human needs are met worldwide” (Robert, Schmidt-Bleek et al. 2002), the re-direction of a significant proportion of the huge military expenditures of North America, Europe and Australasia towards providing food, shelter and basic healthcare for the poor of the world would make a major contribution towards this. Many of these living in severe poverty worldwide contribute significantly to environmental and ecological degradation through their efforts to subsist and survive.

#### **4.3 GOVERNMENT POLICIES TO ENSURE AN ECOLOGICALLY SUSTAINABLE BUSINESS SECTOR**

As outlined previously, the system in which business currently operates makes it very unlikely that business will become ecologically and socially sustainable, without significant government intervention. However, in conjunction with substantial societal change, government is in a powerful position to compel businesses to change in the direction of ESD. This section provides an overview of some the policies Government could adopt 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 4 system conditions for an ecologically and socially sustainable society and the 4 objectives for an ecologically sustainable business sector outlined previously in Section 3.

#### **4.3.1 LICENCE TO OPERATE A BUSINESS**

Governments could require businesses to operate an ecologically sustainable manner or withdraw their licence to operate. The idea of licensing businesses and subjecting them to prove that they are operating in the public interest is far from new, in fact it applied in the late 18<sup>th</sup> and early 19<sup>th</sup> century in the United States, where Charter Corporations had to apply at the end of their Charter (usually 20 years) to have their Charter renewed by the relevant state legislature. This arrangement allowed the state legislatures to only renew the Charter for corporations where the directors and management could show they were operating in the public interest as well as their management's and shareholders/investors' interests (Ritz 2001).

This renewal of the licence to operate the business could be based on the business being required to justify that it was complying with the 4 objectives previously specified for an Ecologically Sustainable Business Sector in Section 3.2. If the business was not achieving these objectives, its licence may only be renewed for 5 years, rather than 10 years with the possibility of the license not being renewed after 5 years unless by the time the business was meeting the required standards in relation to these 4 objectives.

Such a government requirement to operate according to these 4 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 20<sup>th</sup> Century, would eliminate the incentive to continually improve businesses products, services and efficiency 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.

#### **4.4 LICENSE TO MANUFACTURE A PRODUCT**

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 eco-efficient 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.

Over time, the eco-efficiency standards can also be continually increased so that all products and services provided by the business sector are produced within the standards required by the 3 objectives for an Ecologically Sustainable Business Sector in Section 3.2 above.

#### **4.5 GOVERNMENT TO AUCTION LICENSES TO USE RESOURCES**

A policy related to 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 to ensure equity for future generations. For non-renewable resources, these licenses should be for ever-decreasing amounts each year to encourage a movement away from further depleting this non-renewable resource. Ideally, this should be done in such a way that the usage of non-renewable resources would be eliminated before reasonable accessible supplies were fully depleted or exhausted. By issuing licenses for ever decreasing amounts of non-renewable resources to be used, governments would force businesses to focus on continually reducing the amount of non-renewable resources used and move the business sector towards Ecologically Sustainable Business Sector - Objective 1 – outlined previously.

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. This would contribute to Objective 3 outlined previously.

It is recognised that establishing such rates and adhering to such rates 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, for example, Australian authorities trying to stop unsustainable fishing of the Patagonian tooth fish. Experts in this case have determined sustainable fishing levels but illegal over-fishing is threatening to destroy breeding stocks of this very rare fish (ABC 2003).

#### **4.6 WORK TIME REDUCTION**

Governments, particularly in developed countries, need to encourage producing less, consuming less and working less to move towards an ecologically and socially sustainable steady state economy (Hayden 1999). Hayden puts it succinctly as “we need a vision of spending time with the Joneses – rather than keeping up with them”. 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 spending 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 4 societal system conditions and the 4 objectives for an Ecologically Sustainable Business Sector specified previously.

#### **4.7 AN ECOLOGICAL AND SOCIALLY SUSTAINABLE TAX SYSTEM**

Governments should heavily tax unsustainable activities and use of non-renewable resources and use selective subsidies to encourage more sustainable alternatives, including use of renewable alternatives (eg 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 increasing required with our 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 further to the Universal Guaranteed Income and Maximum Allowable Wealth Concepts discussed in the next section (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.

#### **4.8 UNIVERSAL GUARANTEED INCOME AND MAXIMUM ALLOWABLE WEALTH**

In his book, *Theory of Justice* (Rawls 1999) 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. That is the level of incentive is enough to encourage people but not such huge incentives that the poor are made poorer. In today’s societies, the levels of incentive remuneration packages received by Corporate Chief Executives and other senior corporate executives see well beyond the level required to provide enough incentive to do the job well. In his very interesting book, *Socioeconomic Democracy* (George 2002), 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. This approach could make a major contribution to the 4<sup>th</sup> societal system condition of the NS model relating to meeting human needs worldwide, as many individuals have much more wealth than they would ever need and an universal guarantee income would assist in moving those in severe poverty from clearing rainforest and destroying eco-systems in order to eke out a basic subsistence existence.

#### **4.9 GOVERNMENT OR SOCIAL NON-PROFIT OWNERSHIP OF INFRASTRUCTURE**

It is inefficient in Australia (both in ecological and economic terms), to have 2 fibre optic cable networks (Andrews 2002), 3 or more sets of mobile telephone towers and relay stations etc. There are certain types of infrastructure, usually basic utilities that are natural monopolies, (eg 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 the ideologically driven competition and privatisation policies. It is an enormous waste of resources (mostly non-renewable) to have duplicate networks for natural monopolies – electricity, water, gas distribution, local telephone services etc). It is also hard 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. The mutual ownership by users may be more efficient than the government ownership approach, as the users are likely to be very focussed on the utility providing reliable service at minimal cost.

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

### **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 sharemarket 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, driven particularly by 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 4 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 also required to make significant progress towards ESD. 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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