



AN ESSAY

Wales and Sustainable Development

Foreword

Wales is one of the very few countries with a duty of integrated sustainable development written into its constitution, and has a formal statutory framework in place underpinning the adoption of sustainable development.


Wales and Sustainable Development is an essay by Professor Ken Peattie, Director, Centre for Business Relationships, Accountability, Sustainability and Society, Cardiff University which forms an introduction to the Sustainable Development Seminar for Senior Leaders, Decision Makers and Influencers: *Learning to Think Differently*, in Wales. Supported by the First Minister and the Welsh Assembly Government, this seminar brings together thought leaders from across the public, not-for-profit and private sectors to present and discuss key ideas about sustainability.

The seminar aims to create a new vision for how Wales can move towards sustainable prosperity and in so doing define a distinctive Welsh approach that can be an inspiration for other regions of the world. Initiating successful management of change towards sustainability, it will emphasise strategic decision making and the importance of cross sectoral integrated approaches as core to this process. Delegates will be better equipped to anticipate future trends and opportunities within a sustainable Wales.

Cynnal Cymru, the Sustainable Development Forum for Wales, and Public Service Management Wales have invited the University of Cambridge, Cardiff University and the University of Wales, Bangor to provide this unique seminar which will form part of the ongoing commitment towards a sustainable Wales.



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What is SD and where does it come from?

'Sustainable Development' (SD), also sometimes referred to as 'sustainability', is likely to be the most important idea, issue and challenge facing humankind in the 21st century. In nature, it verges on the paradoxical. When it is defined, it can appear almost bewilderingly simple, yet trying to put it into practice usually proves to be intractably complex. It has been one of the most widely discussed issues over the last 20 years, and yet remains unfamiliar to, and poorly understood by, the majority of people. In a recent study by the Welsh Consumer Council, 70% of Welsh consumers did not know what SD meant. It is something that everybody seems to agree is 'a good thing', and yet few appear to be able to make substantive changes in order to progress towards it. It seems to be a universal concept, and yet is frequently 'hijacked' to promote or justify a specific agenda.

This document and its accompanying reference compendium aim to provide an introduction to SD, its evolution, and the challenging social changes and leadership issues involved in making progress towards it. The aim is to give readers a shared understanding of the issues and challenges embodied in, what the SD strategy for Wales sets out as, *Learning to Live Differently*.

A rather charming explanation of SD can be found on the website of Flintshire County Council. It equates the fundamental principles of SD to the lessons we are taught as children on our first day at nursery school. These are "Share what you have with others"; "clear away the mess that you make" (in other words don't leave it for someone else to clear up); and "look after your classmates". In many ways this reflects the nature of SD accurately. It represents basic values that the majority of people would identify with and want society to live by, combined with a large helping of common sense. The challenge is to translate such common sense into common practice within the industrialised, globalised, high-tech, high-pressure world that modern Wales is a part of.

The question of where the concept of SD comes from does not have a simple answer. As the definitions provided elsewhere in this document and the accompanying reference compendium demonstrate, the essence of SD is about managing and balancing the interactions between economic activity, social welfare and our physical environment. Formal measures aiming to prevent imbalances between these aspects of our world have been part of society's agenda for at least 5,000 years, since the creation of the codes with which ancient Mesopotamia was ruled. The importance of achieving harmony between economic activity and society or the environment has occupied the thoughts of citizens, businesses and those who govern throughout history.

These issues fueled debates in the Senate of Ancient Rome, prompted the Elizabethans to enact environmental laws, saw garden cities and green belts created during the 20th century and have spawned protest movements and voluntary organisations worldwide.

These issues have also shaped much of the history of Wales and the character of its landscape and people. The Rebecca Riots and Chartist Rebellions of the mid 19th century; the triumphs and tragedies of the mining communities; the growth of trade unionism and the Labour Party; the politics of Keir Hardy, David Lloyd George and Aneurin Bevan; and the writings of Alexander Cordell are all reflections of the sometimes turbulent interplay between the economy, people and environment of Wales. The landscape of Wales and the spirit and pride of its communities, and the resilience of both in the face of successive economic and technical revolutions, are also celebrated in its language, poetry, music and art.

The key role of the mining industry in Welsh history and culture makes the principles and priorities of SD particularly resonant in Wales. A mining investment is an unusually unsustainable type of economic development. There is no negotiating with the economics and geology of a mine nearing the end of its life. Mining created economic prosperity within Wales, but also brought significant social and environmental costs. Mine closures also created some of the most difficult social and economic challenges that Wales has had to face in recent decades. The story of Wales illustrates very clearly the problems that occur when a natural resource becomes exhausted. Although mining belongs largely to the past of Wales, the Welsh landscape and environment is still central to much of its economic activity through farming and forestry and through tourism and leisure. What SD can bring to the future of Wales is greater harmony and balance between its people, its economy and its natural environment.

The key steps towards the modern conception of SD are as follows:

The 1960s: The great decade of counter-culture and social revolution saw the foundation of the International Organisation of Consumers Unions in 1960 (later to become Consumers International) as an international guardian of consumers' interest on issues such as food safety, consumer health, environmental impacts, and international trade regulation. The publication of Rachel Carson's *Silent Spring* in 1962 showed how the chemical industry's championing of DDT, and its widespread use by farmers, was creating a toxic legacy that threatened both the environment and human health. This book had tremendous impact because it showed the dangers of a substance that business and the government had consistently promoted as 'safe'.

The 1970s: In 1970 the Environment Protection Agency was founded and the first Earth Day was held in the USA. 1971 saw the foundation of Friends of the Earth and Greenpeace. In 1972 the United Nations Conference on the Human Environment placed the embryonic environmental movement into a broader economic and social context. It produced a declaration of 26 principles, an action plan for the human environment and an environment fund. A year later the United Nations Environment Programme (UNEP) was established.

The 1980s: The agenda in the 1980s was largely driven by a combination of alarming scientific discoveries on issues such as the depletion of the rainforests and the ozone layer, and a variety of environmental and human disasters including Love Canal in the USA, Bhopal in India, the Exxon-Valdez oil spill in Alaska, the explosion at Chernobyl and famine in Africa. It was also the decade in which the concept of '*Sustainable Development*' was articulated and promoted. It originated in the 1980 World Conservation Strategy in relation to the optimum use of renewable natural resources. In 1983, the UN General Assembly created the UN World Commission on Environment and Development, chaired by Dr Gro Harlem Brundtland, the prime minister of Norway. In 1987 it published its landmark report, *Our Common Future*, which crystallised the nature of SD and disseminated it with a strength and clarity that governments, businesses and other organisations could not ignore.

The 1990s: During the 1990s the emphasis was on integrating SD principles into the strategies of government at all levels, businesses and other organisations. In 1992 the first Earth Summit in Rio brought together representatives from 172 countries and 2,400 NGO representatives. It produced Agenda 21 as a blueprint for governments to develop more sustainable strategies, particularly in terms of local governments developing Local Agenda 21 strategies. During the early 90s the World Business Council for Sustainable Development (WBCSD) also emerged to bring together leaders from over 170 of the world's major companies to explore the contribution that business could make to SD.

The New Millennium: The first five years of the new Millennium have largely underlined the difficulties involved in making substantive progress towards SD. The second Earth Summit at Johannesburg in 2002 generated many new initiatives and new partnerships to tackle key SD challenges, but much of the commentary centred on the relative lack of progress since Rio. The Kyoto Protocol represented an important international attempt to combat global warming, but its ratification and implementation have been problematic. The Millennium Development Goals (MDGs), established to promote global progress on eight key quality of life issues, were reviewed in 2005. Although some progress had been made in each area, progress was often slow, particularly within

the poorest countries and on issues related to health. The Millennium Ecosystem Assessment published in 2004 revealed the increasing pressure being placed on natural systems, and that this in turn threatened the ability of countries to achieve the MDGs.

Key definitions and components

Our Common Future included what has become the best known summation of the SD concept – *“Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.”*

Another definition provided by the World Conservation Union, UNEP and WWF is:

“Improving the quality of life while living within the earth’s carrying capacities.”

The UK Government and the Devolved Administrations have adopted the following interpretation:

“The goal of sustainable development is to enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations... ”

...for the UK Government and the Devolved Administrations, that goal will be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment; and a just society that promotes social inclusion, sustainable communities and personal wellbeing. This will be done in ways that protect and enhance the physical and natural environment, and use resources and energy as efficiently as possible.”

Within such definitions of SD several key components can be identified:

Futurity. A limitation of conventional approaches to business and political decision making, is that they tend to be orientated towards the present, and the present generation of stakeholders. Decisions that are good for the current generation of consumers, shareholders, workers or voters may work to the detriment of those who will follow them. This raises some difficult questions. *‘It is what the customer/electorate wants’* has been used as a final argument by many decision makers in the face of criticism. But what makes the rights of the current generation of consumers or voters in Wales and elsewhere more important than those that are to come? Given the extreme poverty and intense need in many parts of the world today, it can be difficult for the needs of the generations to come to seem as real or as valid. Ultimately sustainability involves balancing the needs of those here today with those of future

generations, and to move beyond short-term quick fixes for problems to develop long-term sustainable solutions that can meet the needs of all the world's people (if not all of their wants).

Welfare and quality of life. In the past, progress has often been measured in quantitative terms using measures like Gross Domestic Product (GDP), average earnings or material living standards. To take GDP as an example, it measures the total volume of economic activity in terms of goods and services consumed, with no attempt to measure the benefits they provide or the contribution that they make to progress. Every environmental and social disaster therefore contributes to GDP through the efforts that go into cleaning it up, covering it in the media, punishing those responsible and counseling those affected. GDP provides no idea of the quality of our economic activity, using it as a measure is like attempting to judge who won a football match by counting the number of times the ball is kicked. Although sustainability is often discussed in terms of environmental issues, a focus on social and economic issues including employment opportunities, health, crime, social inclusiveness and our heritage are also important to develop a society that is economically and socially rewarding and sustainable. Within Wales there have been recent attempts to develop ways of measuring progress which incorporate environmental and social dimensions, such as the Countryside Council for Wales sponsored Index of Economic and Social Welfare for Wales.

Equity. Despite decades of development that have emphasised maximising economic growth and technological innovation to allow us to create a better world, we are still faced with a billion people living on under one US dollar a day, more than 800 million malnourished people, and over two and a half billion lacking access to adequate sanitation. Within Wales and the rest of the UK, the gap between the richest and poorest has remained stubbornly wide, and 'social mobility' has proved far more difficult to create than anticipated. SD seeks to balance better the costs and the benefits of economic activity between different countries, regions, socio-economic groupings, ethnic groups and between age groups and the sexes. This requires people to have access to opportunities and to both social and environmental justice. They also need access to the information that they need to understand the choices that they are presented with. There is also an issue of equity in relation to the other species that share the planet with us. Human expansion and economic development often compete with other species for space or food, and many would argue that we may have the ability to decide which other species live or die, but we do not have the right.

Global environmentalism. SD also recognises the environment as a global system on which our social and economic systems depend. Although ecological systems are often remarkably robust, an unsustainable use of environmental resources can threaten their stability, impair their productivity and ultimately lead to the loss of resources. The fate of many of the world's fisheries is a straightforward example of how a seemingly abundant natural resource is impacted by unsustainable use, with serious economic and social consequences. We tend to talk in terms of '*environmental problems*', although this is misleading. When the environment is under stress, it tends to be a symptom of problems in our underlying economic, political, technical or social systems and policies. The future wellbeing of Wales depends partly on the stability of global environmental systems linked to ocean currents, the production of oxygen and the regulation of the climate.

Diversity. Environmental science shows us that ecological systems derive strength from diversity, and protecting biodiversity (or the richness and variety of nature) is an important element of the SD agenda. Also important is social and economic diversity. Economies that are reliant on a small number of companies and industries are more vulnerable to economic instability than those that encourage a wide range of industries and business types. Similarly social diversity can help to develop communities that are culturally rich and outward-looking.

Despite its apparent simplicity, SD has been subject to a number of different interpretations. Environmentalists tend to view SD in terms of how to sustain the quality of the environment in the face of a growing population with ever-increasing material aspirations (sometimes referred to as '*strong*' SD). Economists and policy makers often view SD in terms of treating the environment as a set of constraints, and seeking ways to maintain economic growth within those constraints (sometimes referred to as '*weak*' SD). Sociologists will tend to emphasise the equity agenda, and view SD as a process of more fairly distributing and using economic and environmental resources.

A new way of looking at the world

The crucial difference between the modern concept of SD and the preceding 5,000 years of debate about the impact of economic activity on society and the environment, is the recognition of the economy, society and the environment as inter-twined and inter-dependent. Previously these three spheres were seen as separate agendas that only occasionally came together in relation to specific issues. A sustainability perspective recognises that our economy exists within our society, and that they both exist within the physical environment whose stability underpins all that

we do. The key to true sustainability is in the pursuit of integration, harmony and balance between society, the human economy and the underlying natural systems. There are many different issues within the SD agenda, and their significance tends to vary between nations and regions. Most SD issues have a very different meaning in the poor, less-industrialised countries of Africa and Southern Asia than they do in a relatively wealthy, industrialised country like Wales. The full scope of SD issues goes far beyond what a document like this can encapsulate, but some of the most important include:

Poverty and hunger. The Live8 campaign in the run-up to the 2005 G8 meeting highlighted the ongoing problem of global poverty and the need for debt reduction and trade justice. More than a quarter of children under age five in poorer countries are malnourished. Poverty in Wales is discussed in relative terms to the UK rather than on a global scale. Around a quarter of Welsh households are poor by UK standards, with 30% of children living in households with incomes below 60% of median income (compared with 28% in Great Britain) and 19.4% of Welsh children living in workless households compared to 16.4% in the UK as a whole.

Child mortality. Around 11 million children under five die each year globally. These deaths are concentrated in poorer countries and mostly accounted for by a handful of preventable or curable diseases, although malnutrition is a contributory factor in around half. During 2004 infant (under one year old) deaths across England and Wales reached a record low of 3,272 (an infant mortality rate of 5.1 deaths per 1,000 live births). This is the lowest rate ever recorded for England and Wales.

Education and equality of opportunity. Globally over 100 million primary school age children are denied education, mostly because of poverty. There is also a gender imbalance in education with boys more likely to be educated, and likely to stay at school longer, than girls. Gender equality in employment, pay and many other aspects of life continues to be a concern. Only around 16% of seats in national governments are occupied by women globally. In Wales there have been improvements in terms of equality of opportunity in education and in the narrowing of the pay gap from 37% to 14% in the last 30 years. In terms of political representation, the National Assembly has achieved 50% women representatives and a majority in cabinet, but only 23% of local councillors are female. Overall women hold less than one fifth of senior jobs in Welsh public life.

Health. AIDS/HIV is a major challenge worldwide, with 4.9 million new cases and 3.1 million deaths globally during 2004. In parts of Africa as much as a quarter of the adult population is infected, and in many poorer countries the epidemic has undone decades of developmental progress. Other diseases once thought to have been largely conquered such as malaria and tuberculosis are also developing drug resistance and killing millions. In Wales health issues are less dramatic, but have a major impact on quality of life with nearly one in four people suffering some form of long-term illness (five per cent higher than the UK average). However, average life expectancy in Wales has risen to just over 75 years for men, and 80 years for women, respectively.

Climate change. Although a complex and contentious subject, there is increasingly a scientific consensus (as represented by the International Panel on Climate Change) that human activity in releasing 'greenhouse gasses' into the atmosphere has raised global temperature by 0.6°C during the 20th century. This translates into a near halving of the volume of polar ice and alpine glaciers, and a rise in sea level of around 10cm. Globally, rising temperatures threaten key ecosystems such as coral reefs, tropical rain forests and alpine habitats. For Wales, the impacts will be felt in wetter winters with more concentrated rainfall (and therefore more flooding) and a greater likelihood of intense hot spells and water shortages during summer.

Deforestation. Globally almost one million km² of forest has been lost during the past decade to logging, farming or fires. Tropical rain forests receive most attention, given their importance to biodiversity and climate. Rain forests are disappearing at annual rates of between 50-100,000 km². At this rate rainforests will disappear during this century. Tropical dry forests, although less discussed, are being cleared at a substantially higher rate. About one eighth of Wales is covered by woodland and forest, and much of it is managed sustainably through the Forestry Commission or under Forestry Stewardship Council certification.

Loss of biodiversity. Despite increasing efforts to establish national parks and nature reserves, the loss of species and habitats continues. This can be through the direct impacts of pollution, logging or farming, or indirectly through climatic change. Globally more than 10,000 species are listed as endangered. For Wales around 25% of its species have been lost or are declining, with 22% stable or increasing. For most of the rest, no clear information exists. Almost half of Wales' natural habitats are declining, although there are now 263,000 hectares included in the Tir Gofal scheme to promote wildlife rich farmland.

Contaminated land and soil erosion. The Earth's soil is important to provide the food that we eat and the foundations upon which we build. During the last 50 years more than 20% of the world's cultivated topsoil has been lost to erosion while around 10% of what remains has lost much of its natural fertility. Soil fertility is not a problem for Wales, but part of the legacy of its industrial heritage is an estimated 1,400 abandoned metal mines which pose a significant problem in contaminated land and its impact on human and environmental health.

Water quality and access. The World Bank reports that 80 countries now have water shortages that threaten health and economies while 40 percent of the world's population (over two billion people) lack access to clean water or sanitation. With population growth, increasing irrigation and rising standards of living, global water demand is doubling every 21 years, leading to predictions of a water crisis in many regions. By contrast Wales is blessed in terms of both the quantity and quality of its available water. Only a minute fraction of drinking water in Wales fails to meet the quality regulations, and the water in Welsh rivers and streams has improved recently so that in 2003 94% met water quality targets. The proportion of Welsh beaches meeting European guideline standards has increased from 20% ten years ago, to 86% today. Pressures from sewage overflows, farm runoff and other forms of pollution persist, but the water we mostly take for granted in Wales, would be the envy of much of the world.

Each of these issues listed above is important, and many of them are inter-related. What may seem to be lacking is a way to integrate them into a single framework to discuss how they can be tackled in relation to SD. One approach is the '*Five Capitals*' concept that sees our quality of life and 'wealth' deriving from five types of capital:

- 1. Natural Capital:** the Earth's natural resources and the natural processes on which life depends.
- 2. Human Capital:** our health, knowledge, skills, motivation and capacity to work and relate to one another.
- 3. Social Capital:** the institutions that allow us to develop human capital (which includes families, communities, businesses and schools).
- 4. Manufactured Capital:** the man-made goods, fixed assets and infrastructure that contributes to the provision of goods and services.
- 5. Financial Capital:** which has no value of its own, but represents one of the other forms of capital and facilitates exchange.

The idea that responsible management of financial capital involves managing and investing it wisely to generate interest, so that the capital sum is not eroded, is commonplace. What the debate about SD has done, is to allow the transference of that logic to other forms of

capital. Therefore we can look at a process like logging in the rainforest, and recognise it as an unsustainable erosion of our natural capital, not the creation of an income stream of 'interest' that can be sustained. Similarly it helps us to understand that to generate financial capital, we need to develop our human capital through education and training and our manufactured capital through investment and innovation.

The future of human life in every region of the world will depend on our ability to manage and integrate the five capitals effectively. Success will depend on many different factors. How climate change develops; the success of policies to tackle global warming, world poverty and aids; the stability of the world financial system in the face of huge imbalances between countries like the USA and China; whether shortages of key resources such as water lead to war in some areas; the ability of emerging technologies (such as nanotechnologies) to address major sustainability problems; how we will meet the lifestyle aspirations of the rapidly expanding middle classes of countries like India and China – these are just some of the issues that will affect our quality of life and peace of mind in the coming years. One thing is relatively certain, the cheap and abundant oil that was the basis of our economic growth during the 20th century, will reach and pass its supply peak within about 10 years. This is bound to create major shifts in our economic, technical and political systems, and is one very compelling reason why we know that the current state of the world is not sustainable.

What does it mean? Perspectives on SD

To understand the implications of SD, there are a number of perspectives that can be adopted:

Our world as a system. One way to consider SD is in terms of systems theory. A system is sustainable if its inputs and outputs are balanced, and if its behaviour over time tends towards stability. Nature is very good at sustainable systems, as a study of a forest, a lake or an area of grassland will show. The systems view in relation to the environment was neatly summarised by Barry Commoner's four laws of ecology:

1. Everything is connected to everything else. Ecology envisages the environment as a 'web of life' where a change to one strand will affect the entire network;
2. Everything goes somewhere. Physics teaches us that matter and energy are not destroyed, but always go somewhere. Many environmental concerns relate to things ending up in the 'wrong' place, such as CFCs in the ozone layer or pesticide residues in food;

3. Nature knows best. The balance of nature of any ecosystem may have taken millions of years to reach a stable and renewable balance;
4. There is no such thing as a free lunch. Every human intervention in the workings of the environment has some cost. The bill for lunch may arrive decades later, and to a different address, but environmental damage inevitably has to be paid for by someone.

A systems view can help to highlight something very obvious, but is often overlooked, in discussions about SD. If something is not sustainable, then it cannot be sustained. This blindingly obvious piece of tautology is often absent during discussions about SD, when people tend to focus on the difficulties of moving from the current situation to a more sustainable state. This can give the illusion that maintaining the current status quo is an option. The reality is that both science and common sense tell us that the status quo is unsustainable, but as Laurence J. Peter (author of the famous 'Peter Principle') once said, "*Bureaucracy defends the status quo long past the time when the quo has lost its status.*"

Sustainability is effectively an either/or proposition. A given situation is either sustainable, or it is not. In many ways it resembles the concept of profitability for a commercial business. A business is either profitable or it is not. This does not mean that it cannot survive while failing to make a profit. As the dot com bubble showed, some businesses can operate for many years simply on the promise of future profits. Ultimately, unless a business is profitable it will not be viable, and will fail or be taken over. For our businesses, economies and societies, if they do not eventually reach a sustainable state, then they will ultimately fail or have disruptive changes forced upon them.

Living within our means. Another key implication of SD is the concept of limits. Our planet has a finite level of resource, and a finite ability to absorb the waste and pollution that we create without impairing its natural systems and their productivity. Although technological advances may allow these limits to extend, we fundamentally have one planet that must be shared. This has led to the concept of Earthshare, the proportion of the Earth's resources that is available to support the life of each person on the planet without reducing the earth's productive capacity. The Ecological Footprint for Wales showed that the average land area that would be needed to provide the resources and absorb the pollution to support each Welsh person is currently 5.3 hectares. If this lifestyle and living standard was extended to the entire world's population, we would need around three planets worth of resources to meet their needs. In the absence of two additional planets, we will need to find more environmentally efficient ways to live, or a compelling logic as to why we deserve to live a lifestyle that the rest of the planet's population cannot aspire to.

Stewardship – managing our capitals wisely. Another building block of SD is the concept of *'stewardship'*. This is partly rooted in the Judeo-Christian tradition drawn from Genesis and Psalms that God granted mankind dominion over the natural world, and appointed humankind stewards to manage it wisely. Stewardship helps us to consider the world in terms of natural capital that must be managed and nurtured. The concept of stewardship also embraces the idea of holding something in trust for future generations. The idea of stewardship as a business value was included within Agenda 21 and has been adopted by major companies such as BT to reflect their concern about the impact of their products during manufacture and after use.

SD as a business issue. Ever since the Brundtland Report, the mainstream business community has been engaged with the issue of SD, and how it can contribute to its development. Organisations like the WBCSD have played a leading role in convincing the business community that SD belongs on the business agenda, although companies are typically more comfortable discussing the same issues in terms of Corporate Social Responsibility (CSR). This reflects an obvious element of self-interest, since if a particular business or industry is not sustainable, then ultimately the interests of those businesses and their shareholders will be affected. Historically the attitudes of businesses towards environmental and social issues has often been defensive, and geared around resisting new legislation or other changes on the basis that it might damage their competitiveness. More recently a view has emerged that such changes can lead businesses to develop more innovative products and production methods, and ultimately enhance competitiveness. It has certainly become clear that when businesses damage the interests of the environment, society or their customers, it can have very serious negative consequences for the business through boycotts, lost custom and damaged reputation and share price. During the last ten years we have witnessed a growth in companies developing SD strategies and publishing sustainability reports. A useful concept that has emerged is that of the *'triple bottom line'*, that sees social, environmental and economic business performance as inter-linked and self-reinforcing.

During the 1980s and the 1990s a number of companies and brands founded on principles of ethics and sustainability, including BodyShop, Ben & Jerry's and Ecover, experienced significant growth and media attention. Mostly such businesses were led by entrepreneurs who believed passionately in the values of more sustainable business, but they also helped to prove the commercial case for such businesses. Despite this, we have seen relatively few new iconic brands and businesses emerge to join the early pioneers, and the majority of 'green' brands continue to be viewed as niche products serving a minority of concerned consumers. For business to play its full part in the development of a

more sustainable economy, we will require the greening process to escape from the market to change our mass markets. It will also need sustainability principles to become a central part of business thought for the majority of mainstream businesses, rather than for the enlightened few in the vanguard.

The discussion about businesses and sustainability has been dominated by large companies and especially by the proactive minority of global companies involved in initiatives like the WBCSD. Such companies are not representative of the mainstream of large companies, who continue to respond to pressure to deliver growth in sales, profits and share prices regardless of its long-term sustainability. They are even less representative of small companies who represent the majority of the world's businesses and who are vitally important within the economy of Wales. For smaller companies SD presents both opportunities and threats. Faced with demands to conform to new environmental and social legislation, and to meet rising expectations within society, smaller companies can find it difficult to gather sufficient information, resources, time and breathing space to make the necessary changes to the business. At the same time, the process of fundamentally changing business models and ways of thinking can be easier for smaller companies without cumbersome structures for management, ownership and control. The nimbleness of small companies can allow them to innovate and exploit the market niches that the evolution of the SD agenda will present. Doing so will require entrepreneurial flair and leadership within our smaller companies, and the provision of support from the public services and business partners that they depend on.

SD as a public policy issue. The SD agenda creates challenges for those seeking to develop and implement policies for all levels of government. Wales has been at the forefront of this process as one of the first places on earth to have the integration of SD into all its policy-making areas established as a statutory responsibility. Welsh policy makers have taken a lead within the UK in tackling many of the practical problems involved in implementing sustainability policies. As Jonathan Porritt, Chair of the UK Sustainable Development Commission, noted - *"The Welsh Assembly Government is unique in the clarity of its vision and commitment to embed SD at the heart of everything it does. The range of Action Plan commitments reflect the need for Wales to act both internally and to play its part in influencing UK and World issues. It represents an exciting opportunity to build on the progress already made in Wales, and to focus on making real and lasting changes."*

Wales has acted as a pathfinder for many aspects of policy-making for SD, and has shared its experiences within the UK and Europe, and beyond through its involvement in the Network of Regional Governments for Sustainable Development. The challenge with SD strategies is to create genuinely 'joined-up' policies, since it requires the economic,

social and environmental aspects of any issue to be integrated into the decision making and implementation processes. The next step for Wales is to lead the way in the translation of SD from an area of policy-making, into an approach to policy-making.

A changing world, environmentally, socially, culturally. The choice of *Learning to Live Differently* as a title for Wales' SD strategy was a very perceptive one. The challenge of making progress towards SD will be a learning process, and it will involve accepting and making changes to many aspects of the way we live as individuals and communities. It is this requirement for change that makes the role of leadership so important. One thing we know about people is that they are fundamentally change averse. The QWERTY keyboard that this document is being typed on provides ample proof. A keyboard arrangement intended to slow typists down in the age of mechanical typewriters, continues to slow typists down unnecessarily in the electronic age. This inefficiency is endured by millions of people throughout the globe on a daily basis, despite the loss of productivity and potential health impacts, because we could not face making the transition to one of the fully ergonomic designs produced since the late 1970s. If abandoning an inefficient keyboard design is impossible for us, the idea that we can adapt more important elements of the way we live, eat, travel, shop, work and think, to make them more sustainable, might seem impossible. Without leadership throughout all aspects of society, and a good deal of collective effort and goodwill, it might well prove to be so.

What might a sustainable Wales look like? An obvious question that a number of key commentators have wrestled with, is what a more sustainable world, and a more sustainable Wales within it, would look like. Partly it depends upon how we arrive at sustainability. A society that manages its way to sustainability through proactive changes and seeks to prevent disaster will look very different to one that largely maintains a *'business as usual'* philosophy until some form of social and environmental collapse forces it into a new shape. It will also vary between nations. In many of the poorer countries of the world, achieving sustainability will largely amount to addressing the Millennium Development Goals to overcome the immediate problems of poverty, hunger, disease, burgeoning urban slums, poor water access and quality and the pressure population growth is placing on the natural environment.

For richer countries like Wales, a more sustainable society is likely to be different in many ways. It will need to be more energy efficient, and less dependent on non-renewable energy resources like oil. It will need to be more resource efficient, with less waste generated and far more material being recycled, reused and composted, and with more *'closed-loop'* production and consumption systems. The quality of life and satisfaction

of its people will need to derive less from the ownership and consumption of material things, and more from the use of services, and from peoples' relationships with their friends, families, communities and environment. It will need to reverse the increasing atomisation of societies and the isolation of individuals within it, so that we live and enjoy life with more emphasis on community and collective solutions to our problems. It will require a greater emphasis on local supply systems within the global economy, and less on the use of the centralised global production and distribution systems that decades of cheap oil has provided at great environmental cost. Wales, like all other wealthy nations, will also need to become more outwardly focused, since environmental, economic and social stability cannot be achieved within rich countries unless the poverty and environmental degradation in poorer countries is tackled. Through both trade and aid, countries like Wales must help the poorer countries to become less poor.

Why is it so difficult to achieve?

The challenge of making progress towards SD

Changing how and what we produce and consume. Mankind's impact on the planet is a function of the number of people that the earth must support, the average material standard of living that they enjoy, and the technological means by which their living standards are delivered. Therefore the products that we consume, and the resources that are consumed and wastes generated in producing them, represent a major part of the SD agenda. Although the vast majority of products and services have some form of environmental impact, it is a relatively small proportion of the things we consume that account for most of the environmental impacts. Food production and consumption, personal travel (including cars and holidays), our homes and the energy used to light and heat them, and electronic products account for the vast majority of the environmental impacts linked to our consumption. This means that considerable improvements could be made by developing more sustainable ways to grow food, build houses and generate energy. A great deal of improvement could be made to our sustainability performance simply by using the resources that we already have more efficiently. Research shows that only about 6% of the material used to create a typical item are represented in the finished product. The rest has been discarded as waste along the way. Vast amounts of energy are also consumed by lights and televisions playing to empty rooms, computers switched on but idle, and electronic devices on stand-by waiting to be switched back on. We have become accustomed to low cost and high convenience being the prime attributes of the products we buy. Creating more sustainable products that can match the mainstream for price and convenience is a major challenge.

Rebound effects. Living more sustainably is also not quite as simple as becoming more efficient consumers. If consumers cut down on one element of consumption to save resources, they will usually also save money. If this money is then spent on alternative forms of material consumption, the initial savings may be lost. This is called '*a rebound effect*'. For example, if consumers improve their home insulation by a factor of 50%, this will not all translate into reduced environmental impacts. The consumer will use their savings for alternate forms of consumption, perhaps even keeping their home at a warmer temperature.

Techno-optimism. Although it sounds like a dance genre, this common argument against radical changes to how we produce and consume revolves around the idea that since humans are a resourceful and innovative species, as the crisis linked to SD intensifies, so we will find new technical solutions to problems of pollution, waste and resource depletion. Although this is a comforting thought, it is an unfair burden to place on our scientists and technologists. In a joint statement, the Royal Society of London and the US National Academy of Sciences stated that *"If current predictions of population growth prove accurate and patterns of human activity on the planet remain unchanged, science and technology may not be able to prevent either irreversible degradation of the environment or continued poverty for much of the world... The future of the planet is in the balance."*

Changing our lifestyles. The environmental impacts that we generate are not only linked to the products that we choose to purchase, and the way in which they are produced. The way in which we live also has a profound impact on our own personal ecological footprints. Whether or not we recycle, whether we rely on our cars or use public transport, whether we are willing to maintain and repair products, whether we contribute our time and energies to environmental activities will all determine the sustainability of our lifestyles. Such behaviours are also more than a matter of personal choice since they will also depend on the available support and infrastructure. The availability of recycling facilities, the level of service provided by public transport, and access to the means to make cost-effective repairs to products will shape these choices and behaviours. A key finding from the Wales Ecological Footprint study was that different types of lifestyle can consume very different levels of environmental resources. Moving towards more self-reliant resource efficient lifestyles will be important to make progress towards SD, but it will be considerably harder to persuade consumers of the need for wholesale lifestyle changes that go beyond making product substitutions.

Changing our values and expectations. Part of the problem that SD has faced in being adopted as a business objective, a policy goal or a component of our lifestyles, is that it is not necessarily compatible with the expectations that we have become used to whilst living within an unsustainable consumer-orientated economy. As consumers we have come to expect convenient, low-cost food and cheap air-fares, and yet we do not expect consumer or passenger safety to be compromised. As investors we became used to double-digit annual growth during much of the 1980s and 1990s, and we continue to expect historically high rates of return from our business, whilst also expecting standards of corporate social responsibility to improve. As citizens we expect our local and national politicians to protect jobs, grow the economy and protect the environment, but we expect them to avoid raising taxes or allowing anything to be built in our *'back yard'*. Progress towards SD is only likely to happen if we can moderate some of our values and expectations. This means investors and the investment community being willing to give companies the time and financial *"elbow room"* to develop new and more sustainable strategies and products. It will require consumers to be willing to pay more for products and services that deliver sustainable value rather than the lowest prices. Although 'win-win' solutions exist for many environmental challenges, it would be foolish to imagine that substantive progress towards SD can be made without making compromises and concessions.

Changing what we teach and learn. Education is seen as one of the most important means by which we can develop a more sustainable Wales. Indeed Wales has had the benefit of a very proactive and creative Panel on Education for Sustainable Development to advise the National Assembly on issues of educational policy and practice. It is important not to overplay the role of education in addressing the SD agenda for two reasons. Firstly, there is a danger that it places the onus for solving sustainability problems on the generation of children currently going through the educational system. This is a little unfair, since it was not that generation that created these problems. Secondly, it is wrong to assume that it is a lack of education that has created sustainability problems. Most of the unsustainable development of recent decades has been overseen by highly educated people. Great strides have been made in integrating sustainability issues into the curriculum in Wales, and in the management of schools through schemes such as Eco-schools. Although this has not been matched in most higher education institutions, the teacher training colleges of Wales are also integrating SD into their curriculum. The last thing that those working in education want at the moment is another round of radical changes to the way we teach in school. However, without more radical change, the educational system will continue to reflect the unsustainable society that we have created, and will continue to struggle to integrate SD principles effectively.

Whose responsibility is it? **Playing our parts**

One of the most frustrating aspects of the evolution of the SD agenda during the past 20 years, is the tendency for it to become bogged down in debates about whose responsibility it is to make changes or drive through any particular improvement. Often market forces are seen as the key to progress, resulting in an emphasis on the need to educate, inform and incentivise consumers to change their purchasing and consumption behaviour. In other cases a need for better regulation and enforcement is viewed as the key to progress, with legislation being enacted at both European and UK levels. In other cases voluntary action amongst businesses or other organisations is seen as the best way forward. The flaw in many such debates is the failure to recognise the magnitude of the changes that substantive progress towards SD will involve. The reality is that real progress will not come from choosing one particular engine to drive it forward, but from harnessing all the potential driving forces.

There are roles that we can play as individuals that can contribute to the development of a more sustainable society:

Consumers. The concept of the 'Green Consumer', who will differentiate in favour of companies providing environmentally superior goods and services, is a controversial one. The fact that surveys of purchase intention in relation to greener products are not matched at the checkouts has been interpreted as a failure on the part of consumers to 'walk the talk'. An alternative explanation is that the high levels of consumer distrust and cynicism revealed by the research of Mintel and others, mean that consumers often suspect companies of trying to extract more money from them rather than of trying to save the planet. We do know that consumers can be mobilised and can change their behaviour. When the issues and social/environmental benefits involved are relatively clear and simple, and where the compromises they are being asked to make are few, then consumers will respond. This happened in the boycott of CFC-driven aerosols, and is reflected in the growth in organic food, FairTrade coffee and dolphin-friendly tuna. As consumers we could reduce our own ecological footprint by saving energy, driving and flying less, changing our food choices, and disposing of food and electronic wastes responsibly. Purchasing a greater proportion of products that are FairTrade or locally produced can also make a contribution to SD at a global and local level.

Investors. Social, ethical and environmental investment has been one of the fastest growing areas within UK investment markets driven by a combination of consumer interest and regulatory change. The value of investment in ethical funds is over £4 billion, and following the changes in pension fund regulation, ethical criteria are being applied to pension

fund investments worth around £800 billion. Under the terms of the Operating and Financial Review legislation, all UK public companies will have to disclose their thinking on the strategic issues and risks facing the business including those linked to social and environmental issues. With more ethical funds available, and better performance information than before, investors now have much more opportunity to reflect their social and environmental concerns through their investments. Although the 'sin' stocks of tobacco and armaments tend to act as safe havens in times of stockmarket stress, there is mounting evidence that ethical investment can match and outperform other investment strategies in the long run. Given the continuing growth of ethical investment, if the business community in Wales can develop its environmental and social credentials, it may create new opportunities to attract financial investment.

Citizens. People play important roles within their communities and local environments through the votes they cast, the cases they make to their representatives, and through their actions. When we think about the many challenges involved in progressing towards sustainability, it is natural to think about the role that powerful institutions such as governments and large companies can play. In practice it is surprising how many significant contributions towards an improved quality of life come through the voluntary sector and from actions based within communities. For example, an estimated 120,000 people in Wales are involved in some form of voluntary work to protect the environment.

Leaders. One view of Western culture in the 20th century is that it was the *'Century of Self'*, in which we elevated the importance and rights of the individual above considerations of communities and society. Ideas such as democracy and consumerism that have flourished over the years have built up the importance of individualism and individual choice and identity. The idea that one person can change the world for the better, or adverts stressing the extent to which you personally are *'worth it'*, surround us and reinforce the sovereignty of the individual. SD as an approach to life forces us to reassess this view. Sustainability is not something that you can achieve as an individual, even though your individual actions play a part. Sustainability is essentially a collective challenge in which we need to act as a society, and even across societies before real progress will be made. The focus on individualism leads to one of the most common, but flawed, arguments made against those seeking to promote SD principles. Those who oppose changes made in pursuit of SD will often ask whether those promoting the changes own a car, ever fly in planes or eat non-organic food. Answering 'Yes' is viewed as revoking that person's right to champion sustainability principles. However, this ignores the fact that it is practically impossible to lead a sustainable lifestyle within an unsustainable society, without

withdrawing from it (for example to a smallholding). An analogy would be to envisage passengers on board an ocean liner. If one passenger is convinced that the ship is sailing towards danger, it will benefit neither them, nor the other passengers, if they jump overboard. This would simply be a futile, token gesture. It would be better for everyone if they remained onboard, argued their case, and sought to build support for a change of course.

It is the need to move away from an over-emphasis on individuals, and to move towards more collective action in pursuit of SD, that makes it so vital that we develop leaders who are capable of winning the argument about SD, and building support for the necessary changes. The role of a leader is multi-faceted. Books about leadership in relation to management tell us that leaders actually fulfil many roles in order to manage the relationships, information and decisions that are important to their organisations. These roles include:

Figurehead	acting as a symbolic head;
Leader	in terms of motivating those in the organisation;
Liaison	within a network of internal and external contacts;
Monitor	in touch with performance and progress;
Disseminator	who keeps those inside in touch with significant development in the world outside;
Spokesperson	representing the organisation and its plans to the outside world;
Entrepreneur	generating new opportunities and improvements;
Disturbance handler	helping people adapt and change when things go wrong;
Resource allocator	deciding what and who does and does not get resources and support;
Negotiator	representing the organisation's interests.

For leaders in any form of organisation, or within communities or other groups, all of these different aspects of leadership may be required in order for a commitment to SD to lead to genuine change and progress. Other people tend to adopt a *'wait and see'* approach when leaders endorse a particular strategy or idea. They wait to see whether the leader involves themselves in related events (such as training sessions), leads by example, and monitors progress and allocates resources accordingly.

Perhaps the most important single issue in relation to leadership within Wales and the pursuit of SD, is the issue of trust. Trust is an important component of social capital, but Britain as a whole faces a crisis of trust. Research by MORI in 2003 revealed that 60% of UK adults do not trust business leaders to tell the truth, with politicians and journalists faring

slightly worse. A global study of 47,000 adults across 47 countries conducted by Globescan revealed that almost half expressed having little or no trust in global businesses, with only politicians trusted less.

There are a number of spheres in which leadership that endorses, promotes and practises SD will be important for progress to be made. It will also be important for leaders from each of these spheres to be able to work together. A key outcome from the Johannesburg Earth Summit was the emphasis on partnerships between governments, businesses and NGOs to tackle key SD issues. This will require organisations to work together despite distinct differences in their goals, values, cultures and working practices.

Business leadership. Businesses large and small are crucial to the process of developing a more sustainable Wales because of their role in generating employment and economic growth; their combined purchasing power; and their resources in terms of finance and land ownership. Businesses are also important because of the role that advertising and business communication can have on public perceptions, and because of the impact that lobbying activities can have on the development of regulation.

NAW and political leadership. The National Assembly of Wales is a natural leader in terms of promoting the concept and practice of SD within Wales. Partly this reflects their statutory duty to integrate sustainability principles into all aspects of policy making. It also partly reflects the importance of policy areas such as community development, health, education, waste, economic policy, transport and public procurement in developing a more sustainable Wales.

Local government and public sector leadership. Local authorities have a huge opportunity to contribute to SD through their LA21 strategies, and through the importance of SD initiatives at a local level. Given the importance of the public sector within the Welsh economy, encouraging more sustainable management and procurement practices in the public sector will be important in terms of leading by example.

NGOs and community leadership. Wales has a very active community of NGOs and community organisations, and many of these have enthusiastically contributed to the SD debate relating to Wales and beyond. Such organisations typically enjoy a high level of trust and a strong ability to mobilise their supporters.

Education and thought leadership. Wales has acted as a pathfinder in terms of SD practice, but the institutions of Wales have also often provided thought leadership on many aspects of SD. Although the Universities of Wales have made many significant contributions to SD thought and practice, opportunities remain for SD principles to be better integrated into how they are managed.

Religious organisations and spiritual leadership. In terms of public opinion, religious leaders enjoy a high level of public trust, and they are seen as important spokespersons on issues relating to compassion, justice and ethics.

The media. The media plays an important role in determining the public perception of SD, and the concerns that the public has about particular issues or industries. The Wales Consumer Council study on Welsh consumer perceptions of SD, concluded that much of the general ignorance about it reflected the media's lack of interest. SD tends to be portrayed as 'worthy but dull' or as 'bad news stories' in some element of economic growth or consumer enjoyment being restricted. Without media interest in, and support for, the sustainability agenda, winning the support of Welsh citizens will be difficult.

One of the most strikingly consistent findings in research about SD is the importance that leadership plays. Whether in new product development, community initiatives, campaigns to improve our health or environment, or the development of effective LA21 strategies, strong and supportive leadership is important in many of the key success stories. Unfortunately, such leadership is not always present, and often success is down to the efforts of individual champions within organisations in the face of a lack of true buy-in by the leadership.

Trying to envisage a genuinely sustainable society and world is not an easy thing to do because it challenges us to amend, abandon or 'unlearn' much that we take for granted and view as 'right' and 'normal' simply because it reflects the world as we have always known it. It will require not just an evolution of the way we live, but a transformation in our worldview and our lifestyles. The last time society (at least within Europe) was challenged this profoundly was when the research of Galileo proved the hypothesis of Copernicus that the Earth revolved around the Sun. This signaled the beginning of the end for the prevailing ecclesiastically based view of the world, and ushered in the new age of science and the enlightenment. This '*Scientific Revolution*' did more than create new knowledge and understanding, it completely changed the way that people thought about their world, and its impacts at the time were profound and disconcerting.

An important legacy of this scientific revolution, is that it has given us the knowledge and tools to understand better the relationship between mankind and planet, and the problems that unsustainable development have created. It demonstrates the need for a '*Sustainability Revolution*' which perhaps restores Planet Earth to the centre of the human universe, so that our policies and actions reflect the Earth as a living system with finite limits and the only planet available to us.

Books on leadership talk about the phenomenon of '*transformational leadership*'. This is characterised as inspirational, intellectually stimulating, proactive, ethically-rooted and concerned with both the 'big picture' vision, and the individual welfare of those being led. It is the type of leadership that will be needed to make the transformations that the sustainability revolution will require. It is also, when practiced whole-heartedly, for the benefit of all and not for the glory of those doing the leading, a particularly effective style of leadership; which may be a hopeful thought for Wales, the planet, its people and those who lead them.

University of Cambridge Programme for Industry (CPI)

The Cambridge Programme for Industry (CPI) provides leadership development programmes and learning services for senior individuals and major organisations around the world. Its focus is on developing capacity within business, governments and civil society to respond to contemporary societal challenges. CPI's expertise lies in understanding how people learn and in developing learning processes that can change individuals and organisations in ways that will move society towards sustainability. Its programmes draw on world-class contributors from academic, policy and practitioner circles and its active alumni networks provide a vehicle for ongoing debate and development. CPI collaborates with academic and other partners and its work is underpinned where relevant by applied research. The work of CPI supports the mission of the University of Cambridge, which is to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

Cynnal Cymru

Cynnal Cymru, the Sustainable Development Forum for Wales, is an independent not-for-profit company led by a Board of Directors. Cynnal Cymru exists to promote sustainable development, be a catalyst for change towards sustainable development in all sectors of Welsh society and act as a forum within Wales for the development, canvassing, exchange and dissemination of views, information and policies on sustainable development.

Public Service Management Wales (PSMW)

Public Service Management Wales (PSMW) aims to support and improve the skills, knowledge and understanding of public service managers, leaders and new entrants about working together across traditional public service boundaries and engaging the workforce in improving public services for people in Wales. Over 70 public sector organisations are members of Public Service Management Wales and are working together to develop leadership and management capacity through shared learning, organisational development and improved planning and management of the workforce to create better and more joined up public services. This is an integral part of the Welsh Assembly Government's vision for public services as highlighted in *Making the Connections*.

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