

# A Sustainable Economy for Wales

*A Cynnal Cymru Report*

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This paper is extensively based upon a workshop held by Cynnal Cymru in Cardiff in November 2005 to discuss issues surrounding sustainable development for Wales.

Whilst this paper is intended to reflect the outcomes of this workshop, the views contained herein may not reflect those of every author in every detail.

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# 1) Introduction

**Sustain** *v.* 1. to support. 2. to keep alive 3. **to keep going continuously**

*The Oxford English Dictionary*

“Sustainable development provides a framework for redefining progress and redirecting our economies to enable all people to meet their basic needs and improve their quality of life while ensuring that the natural systems, resources and diversity upon which we depend are maintained and enhanced for our benefit and that of future generations”

*Cynnal Cymru*

**121.** - (1) The Assembly shall make a scheme setting out how it proposes, in the exercise of its functions, to promote sustainable development.

*Government of Wales Act, 1998 (c38)*

This report is set against a series of well-documented and researched problems which are faced by the planet, and which challenge our central tenets regarding what progress and development actually mean. At the heart of these problems are our global productive and distributive systems and the consumption patterns they enable. Industries are directly responsible for both major environmental incidents and widespread environmental degradation. Indirectly, the loss of biodiversity is caused by increased use of pesticides and herbicides. Industrial pollution also causes ozone depletion and global warming. Population growth and economic development in the third world, the latter driven by the demands of the first world, also strain the planet's ecological carrying capacity. There is an urgent need for all countries and individuals and businesses collectively and individually to address these environmental problems.

These threats are now well-known and accepted by most of the scientific community. Indeed, many businesses also now accept the need for change. A particularly difficult challenge is the urgent need to reduce the amount of carbon dioxide entering the atmosphere so as to limit global warming. This challenge is enshrined in the Kyoto agreements on targeted reduction in carbon dioxide emissions, and Wales has its part to play as a constituent part of the UK, a Kyoto signatory. The National Assembly for Wales has a further legal duty, enshrined in the Act under which it was created, to consider sustainable development in all its activities. This provision, an admirably

straightforward example of Parliamentary expression, has, however, manifold and complex consequences. In order to consider sustainable development, we must first understand it: what do we consider as 'sustainable'? What, indeed, do we mean by 'development'? We must not define only our terms of reference, but also how these terms relate to our economic, social and environmental context in Wales. Many of the definitions of sustainable development are outlined in general terms, speaking for example of protecting myriad resources and ensuring the quality of life for future generations. Yet the Assembly must move from generalities to the specific, using the concepts and core values of 'sustainable development' to guide long-term strategies and evaluate individual policies across the widest range of action.

This document is intended as a contribution to the ongoing debate about what sustainable development means, and what the priorities should be for a small country like Wales. It is the fruit of a discussion workshop held in November 2005, specifically intended to consider sustainable development from an economic perspective, both in terms of its underlying theoretical position and in its concentration on the nature of the production and consumption of goods and services in a notional 'sustainable Wales'.

This paper is *not* intended for an academic audience, but rather to be of interest (and hopefully of use) to practitioners, policymakers and the Welsh public. However, an extensive list of supporting material is provided for those wishing to better understand the background to this paper, or to discover more about the relationship between the economy and the environment. The following section provides some background on how we might think of sustainable development, and how this relates to the Welsh context. Sections Three and Four of this paper then consider the ultimate objective and our potential path towards it: what is a 'sustainable' Wales, and what kind of economy would underpin such a region? Remaining sections then focus on the pressing issues that we must address to start along the path towards our preferred future, illustrating how the acceptance of sustainability criteria for policymaking might involve short-term economic pain, but also gain us 'first mover' advantage that could translate to long-term gain.

## 2) Sustainability, the Economy and Wales

The Assembly will pursue, on an effective partnership basis, a sustainable future for Wales based on:

- promoting a diverse, competitive, high added-value economy, with high skills and education, that responds to sustainable development opportunities, minimises demands on the environment and maximises the distribution of the benefits<sup>1</sup>;
- action on social justice that tackles poverty, poor health, and consequences of disadvantage and provides people and their communities with the means to help themselves break out of the poverty trap;
- action in our built and natural environment that enhances pride in the community, promotes biodiversity, promotes local employment and minimises waste generation, energy, water and transport demands;

*Starting To Live Differently  
The Sustainable Development Scheme of the National Assembly for Wales*

In common with the devolved authorities in Scotland and Northern Ireland, the Welsh Assembly has committed to “One Future, Different Paths”, the strategic framework for sustainable development in the UK. The definition of sustainable development included in this document is very general, but even this short sentence (and the parallel definition given by the Welsh Assembly which is similar) illustrates the philosophy upon which it relies, and which might in turn have implications for any consequent sustainability policy:

*It is human-centric* – There is no sense in the statement that the natural resources or environmental ‘quality’ of the Earth have any inherent worth. The objective is stated simply in terms of outcomes for current and future *human* generations. This limit on the set of entities deemed relevant is neither agreed nor necessary in an understanding of sustainability;

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<sup>1</sup> It is notable that simultaneously minimising and/or maximising achievement of more than one goal is not generally possible. The best that can be achieved is minimising/maximising achievement of one within constraints set by others.

*It is a global commitment* – It is all humans across the planet that matter, not just those in the UK or Wales. Thus, we ought not to ‘export’ unsustainable productive methods, emissions or create social or environmental ills elsewhere to protect our own quality of life;

*It addresses the importance of ‘basic needs’* – Basic biological and physiological needs such as food, shelter, water and sanitation should take primacy over other considerations and human ‘wants’

*It is fundamentally optimistic* – The use of this definition assumes that we can improve our current ‘quality of life’ without compromising the future. This is by no means certain.

A development policy based upon the “One Future” or Assembly definitions will thus have a number of characteristics. Importantly, it will aim at improvements in *human* welfare. One might imagine that human welfare is so closely tied to wider environmental quality and capacity that this distinction is irrelevant, but this is not the case, particularly where development and the environment collide. Public policy often must balance economic benefits against environmental impact: for example the jobs and incomes arising from the development in Cardiff Bay against the loss of migratory bird habitat. Under the stated definition, the latter only has value where there is an economic or welfare benefit for current or future humans (for example aesthetically), or in the preservation of wider ecosystems that themselves sustain humans. Without placing an inherent value on environmental resources and quality, the danger remains that cost–benefit analyses are implicitly weighted in favour of economic development. This approach recalls (at *best*) the ‘triple bottom line’ approach, whereby environmental, social and outcomes are equally treated, with the achievement of positive outcomes for all three considered ‘sustainable’. An alternative approach recognises, firstly, the real bottom line in terms of environmental limits and secondly the fact that neither the economy nor society can exist without the environment, but that the reverse is certainly not true. On the contrary, its survival prospects would be much enhanced by human demise.

The Bay development and those like it also provide another illustrative point in the context of sustainability definitions. In the main, they do not improve outcomes in terms

of 'basic needs' such as food and shelter, but rather offer an increased range of employment opportunities for a population whose basic needs are already met. Whilst such developments can create positive outcomes for the very poorest in society (both through direct job opportunities and redistribution of a consequently larger economic 'pie') it is by no means clear that the increase in incomes associated with such developments add to human welfare as much as we might hope. The UK has, like the USA, a more unequal distribution of income than most developed European countries and further increases in national income (or the size of the economy) may well benefit the already rich (or comfortable) more than the poor - and particularly those who cannot, for various reasons, take advantage of the labour market opportunities that new developments bring. This raises the question of what (or who) development is *for*. The Assembly's Sustainable Development Scheme explicitly addresses such issues, having a commitment to the widest distribution of the fruits of increased production (despite the Assembly having little influence over the redistribution of wealth in the UK) although lacking clarity on the mechanisms by which the socially excluded and those in poverty-stricken households will take advantage of a high-skill, innovative Welsh economy.

The principles of the Sustainable Development Scheme suggest the economy is at the forefront of the Assembly's response to sustainable development pressures. Moreover, the continuing policy focus on competitiveness, innovation and high value-added suggest little need for a fundamental reappraisal of our production and economic development paradigm: i.e. that the capitalist-competitive behaviour that created current environmental pressures will respond in a way which will lessen, and over time eliminate them. This position can only be justified if the full economic and environmental costs (or *externalities*) can be made integral to market transactions, in Wales and elsewhere, thus forcing economic actors, including households, to devise new, low-impact ways of 'doing business'. Moreover, in positing such a strategy the Assembly is continuing in an arena where Wales has significantly failed to outperform (or even match) the UK over decades: in embedding innovation and flexibility into its existing economic structures and in its labour force. Meanwhile, the current distribution of research expertise and innovative capacity in both the private and public sectors in the UK and globally does not bode well for a peripheral region wishing to outperform larger global 'motor' regions in the appropriation of environmental technologies and techniques. This does not, of course, mean that Wales cannot be a lead nation in the

appropriation and implementation of sustainability technologies developed elsewhere. A strong drive to seek out and use such technology will of course bring the risks of the early adopter, and the moving of funds away from supporting other technologies that may have a more rapid impact on economic prospects.

Examination of the literature on sustainable development from the UK government, devolved authorities (and increasingly, English Regional Development Agencies) shows that Wales (through the Assembly) is following the dominant paradigm; that is to say the continuation of established social and economic behaviour but tweaked to be more 'environmentally friendly'. There is, however, a fundamental problem associated with this approach. We know that our current fossil-fuelled economy and actions are inherently unsustainable, yet incremental changes in this behaviour can give us no sense of what a non-fossil fuel Wales might look like - with the generalised definitions of sustainability of little help. And without a detailed vision of our preferred future, it will be extremely difficult to take the correct *current* actions to move efficiently to the optimal and sustainable outcome. However, it may be that our current regional development paradigm is not just ambivalent but actively unhelpful in moving Wales towards such a vision.

### 3) Competitive Regions and Sustainable Development

“Wales knows all about the human and environmental consequences of unsustainable models of development. For a generation or more, we’ve been dealing with that legacy within Wales, while at the same time as reinventing our economy.”

The Rt Hon Rhodri Morgan AM,  
*One Future, Different Paths*

Any vision of a sustainable Wales is innately coloured by our current context, yet significant progress will be measured across decades, if not generations. This, then requires a fundamental shift, not only in public policies but in the *way* that policies are made. Policymaking must be flexible enough to respond, not only to current trends in socio-economic and environmental conditions, but also to the possibility of those trends changing – perhaps radically and unpredictably. A raft of research material (some appended to this paper) leaves little doubt that we face a worsening medium-to-long term outlook in terms of climate change, resource availability (crucially, energy) and ecological degradation. Meanwhile, technologies are under development, and behavioural changes are possible, which could somewhat relieve these pressures, although many of these are currently confounded by short-term market conditions (e.g. inexpensive gas which makes renewables relatively more expensive) and the non-inclusion of full ‘polluter pays’ pricing (for example on air travel). The balance between increasing environmental pressure and our responses both locally and globally, technical and behavioural, will determine the context within which a sustainable Wales could develop. The Assembly, of course, has its part to play in minimising the former and maximising the latter whilst managing the inevitable trade-offs.

Current global production and distribution systems, individuals’ behaviour and worsening trends in environmental indicators mean that it will be decades before any economy, national or regional, can approach sustainability – and thus it is impossible to be definitive regarding what might constitute ‘sustainable success’. The possibilities range from situations where wholly local production systems are adequate to fulfil essential human needs and little else through to a scenario where remarkable technological improvements and significant reductions in consumption enable the

current global economic systems to remain structurally similar, and quality of life largely preserved (or even, in the best case scenario, improved). In this latter case the development of global 'hypertechnology' and discovery of large new petrochemical reserves largely obviates the problems that we currently face: nascent and currently limited technologies including renewables, (renewable fuelled) hydrogen, nuclear and bio-fuel may ease energy concerns whilst carbon sequestration and other methods slow global warming. A hypertechnology world may hold out the hope of longer-term sustainability that bridges to the use of more durable and sustainable technologies, including fusion, geothermal and off-world power and mineral resources. A similarly optimistic take on the economic structure of hypertechnology might suggest our current model of global capitalism is well placed to deliver it. In this brave new world, perhaps Wales must continue to behave as it does now, striving to 'compete', albeit again strongly prioritising sustainable technologies and ensuring that full-cost economic and environmental pricing encourages their development and use. If, however, environmental pressures result in severely straitened circumstances and the retreat of the global economy, our current policy paradigm may be substantially the wrong one.

The current dominant policymaking philosophy in the UK (and most other parts of the world) treats countries and (crucially here) regions as if they were growth-maximising firms, competing in global markets for investment, jobs, and, latterly technology. Regions compete in myriad ways. The customer is often the footloose global firm, and regions use intense marketing efforts (selling the quality of their workforce, locale and public sector support) and often financial incentives (grants which subsidise the cost of investment or production) to attract firms' investment. Regional governments have also supported entire sectors, reasoning that the worldwide growth of functional areas such as, for example, ICT and pharmaceuticals, means that regions that pick future 'winners' will be better placed. This has led to a plethora of sector and 'cluster' policies, as development agencies try to encourage specialisms in favoured sectors such as (currently) life and biosciences, software, creative industries, tourism and environmental services, even where the region has little or no existing comparative advantage. There are a number of reasons why this region-competitive approach on the part of the public sector may be inappropriate to drive the development of sustainable economies.

*It is inherently inefficient* – Much public regional policy is aimed at encouraging the development of new or existing economic activities in the region concerned, typically by offering physical space, business services support and in some cases financial incentives. In terms of attracting footloose capital it relies in some part upon ‘begging the neighbour’ – whether this ‘neighbour’ is geographically close, in mainland Europe or in a developing economy. It is far from clear whether such policies are subject to rigorous test to ensure they are addressing a real market failure; if they are not, then regional governments may simply be using public subsidy to encourage production to occur in a more inefficient location – with potentially increased (or at least unknown) consequences for environmental impacts. It is then difficult to justify regional development policies based on lowering costs for firms if the goal for sustainable development cites the well-being of *all* global citizens as an aim.

*It encourages development of derivative and adopted policies rather than true policy innovation* – Following the above, the very notion that a ‘cluster’ can have beneficial economic effects is far from proven – where benefits have been found, they have often found to accrue to the cluster itself, and not necessarily for the host region. Moreover, cluster benefits seem tied very closely to the geographic and cultural milieu in which they develop – meaning that the endemic cluster policies of the DTI and UK RDAs may be largely inappropriate.

*It does not take proper account of the allocation of economic rents* – Success for UK regions is currently measured in growth of economic activity (measured as economic Gross Value Added), and in purely relative terms (although this may be changing for Wales). Yet economic theory tells us that it is not growth that matters in the long run but *profits*. A region may succeed by encouraging a high level of activity and value added, but if the consequent profits, research-derived knowledge and innovative practices are then repatriated to a headquarters location elsewhere, this may have implications for not only economic welfare in the host region, but also its ability to develop a flexible and responsive economic system and workforce than can react to changes in environmental conditions and thus lever long-term ‘success’.

*It has little theoretical justification* – there has been a good deal of criticism regarding the very notion that regions can compete in the same way as firms. The placing of the

region as the centre of this 'new economic geography' ignores a well developed economic literature that illustrates how locations might lever advantages and efficiencies for the firms within them that are quite separate from pure comparative or geographic advantages. There is little or no empirical evidence, and little coherent theory illuminating how an *administrative* area can become more productively efficient (and hence successful) through public policy intervention.

Regional economic policy based on a competitive region is therefore not just flawed, but potentially actively damaging to sustainable actions – if these actions impose *any* limits on economic growth. There is no room within this philosophy for a discussion regarding the benefits, or otherwise, of growth as opposed to, for example Herman Daly's 'steady state' economy, or one which grows (i.e. creates greater economic value year-on-year) without deprecating the environmental asset base. Such discussions might be eased with the move to *absolute* (not relative) measures of progress, with the Assembly making small but welcome steps in this regard in the WAVE consultation paper.

## 4) The Specific Character of a Sustainable Wales

“The other crucial choice illuminated by the past involves the courage to make painful decisions about values. Which of the values that formerly served a society well can continue to be maintained under new changed circumstances?”

Jared Diamond,  
*Collapse*

Perhaps a central failing of sustainability policy is the lack of an ability to move from generalised statements and principles regarding sustainable principles, to a detailed view of how a sustainable (regional) economy might work. Behind this discussion is a centrally important point: that we must move to a low-carbon, and eventually post-carbon economy to be at all sustainable. Given current economic systems' critical dependence on oil and coal for energy, and petrochemicals for materials, we face significant uncertainty regarding our future environments and hence economies. However, there are probably a number of ways in which we can characterise a future regional environment that may help us think about the nature of its attendant economy. This economy may well be effectively *local*, not global in its character.

*The Nature of Production*] – Competitive pressures on manufactures combine with the growth of the multinational to drive production eastwards, whilst markets have (so far) remained in the West. This trend is by no means destined to continue in the longer term, since transportation becomes more difficult as energy (particularly mobile energy) becomes scarcer, and indeed globalisation itself faces increasing pressure. One potential result may be the re-localisation of production, where the majority of goods are produced proximate to where they are consumed (for example in micro-factories). This, of course, has significant implications for the range and quantity of goods available in any location as economies of scale are lost and some raw materials become prohibitively expensive to obtain. Re-localisation may occur sooner and more easily in some industries than others, with welfare and environmental considerations already having some small effect in food production in the West.

*Energy Generation & Use* – There are valid engineering – as well as social and environmental – reasons to suggest that localisation could beneficially affect energy generation. There are very significant efficiency losses involved in ‘moving’ energy

around, whether via electricity networks or LNG tankers. To this should be added the security implications of our current fossil-fuel dependence. Locally generated power has the benefit of localising costs and benefits: 'not in my back yard' arguments mediated by imperfect government policy, unclear accountability and partial market forces become a much clearer discussion of whether a community (or indeed individual) is prepared to accept the negative impacts of any power generation that will be put to local use. It is important to note here that Wales has a strong comparative advantage in renewable energy generation, be this wind, tide or hydro-electric.

*The Nature of Distribution* – Distribution of goods has similarly become concentrated, albeit within the UK – and driven by similar cost competition. This system relies crucially upon personal and household mobility. As transport costs increase, the competitive balance may tip back towards retailers that are very close to population centres, or accessible at public transport hubs. Increasing use of the internet as a marketplace can be taken as read, although this does still require the use of a distribution mechanism for purchased goods (albeit one that is usually more energy and cost efficient than a private car, but still relies largely on the general availability of cars and vans).

*Where we Live and Work* – The localisation of our economic life and limited (or non-) availability of personal motorised transport would radically alter our choices regarding how and where we live. South Wales' traditional population pattern of linear development, well served by public transport links, has been gradually eroded with the construction of single-use housing developments accessible only by private car which may, in the long term, prove to be 'unsustainable' in the most fundamental way. The rail network that served many Welsh communities has endured a long period of decline, but has latterly seen renewal in the Vale of Glamorgan and Ebbw Vale. Meanwhile a similar housing infrastructure exists with many upper-Valleys communities experiencing high vacancy rates for housing which is in good functional order, driven by selective migration towards employment centres on the coast. Whilst linear housing patterns in South Wales may prove of increasing value, transport pressures are likely to be extremely problematic in rural Wales, where even within-community interaction and service use is heavily dependent on private vehicles. Here, it is likely that communities will only prosper with extensive use of information technology for individuals' access to

services and to employment through tele-working, and to provide businesses with access to markets.

*Leisure, Culture and Society* – An energy-scarce world may also experience a localisation of society itself. Much of our cultural experience and leisure activities are inherently linked to easy and inexpensive travel and consumption. Without these facilities, our leisure choices may change and become increasingly focused, firstly, on artistic and cultural products that are ‘weightless’, and can be accessed via ICT with few energy/transport implications and, secondly on our local communities and environment, and on the personal satisfaction that can be gained therein.

There is, then, one word which might characterise this sustainable economy, pushed by energy and transport pressures and pulled by the changed value structures of its citizenry: *local*. Whilst the development of a truly local economy – or more properly a number of local economies throughout Wales – is currently unachievable given existing patterns of behaviour and ownership of economic resources, the concepts of the localised economy can help illustrate which policies might enable its incremental development, or at least ease its function should it prove the only possible response to environmental pressures in the long term.

## 5) Can't Get There from Here? Key Issues for Sustainability Policy Today

“As a result of severe pressure on translation services, we are having to prioritise our use of the resources available to us. Unfortunately, on that basis, we are unable to provide a Welsh version of the Sustainable Development Annual Report 2005. This is because other items have been given a higher priority rating and have thus taken precedence in the allocation of resources.”

*Introduction to Sustainable Development  
Annual Report 2005  
Welsh Assembly Government*

“However there is a different and more fundamental cost that is independent of the monetary price. That is the energy cost of exploration and production. So long as oil is used as a source of energy, when the energy cost of recovering a barrel of oil becomes greater than the energy content of the oil, production will cease no matter what the monetary price may be”

*Dr. M King Hubbert*

A detailed discussion of the raft of pressures that faces our small society and those worldwide could fill volumes (and has). Nevertheless, the *objectives* as regards many of the relevant issues are clear, although debate, of course, continues regarding how much progress can be made, whether it is action on waste, emissions and energy use (minimise); biodiversity and natural resource quality and quantity (protect/enhance); or climate change (ameliorate). Further, we might also obtain a reasonable consensus on the broad actions that are necessary to move towards these goals – including favouring public transport, increasing renewable energy sources, recycling etc – that are rightly part of Welsh and UK Government policy. There are still, however, a number of problems to be dealt with before we can effectively implement ameliorative policies.

*Formalising our Ultimate and Interim Goals* – Only if we understand and agree our ultimate objectives and relevant time scales for our policy actions can we develop a strategy that is effective, consistent and appropriate. Given the fluidity of the environmental, economic and hence policy context it is likely that short-, medium- and long-term objectives and goals will be needed, along with a large dose of policy

flexibility – as has been shown with the recent dilution of GVA as an economic development policy objective.

*Ranking Objectives* – There is little sense as yet in the Assembly’s Sustainable Development Scheme regarding which of the numerous areas of concern takes priority in the shift towards sustainability. The current Action Plan indicates where the Assembly believes initial policy ‘hits’ can have greatest impact, but there is a lack of a coherent overview of Assembly Policy that might then guide resource allocation. It is difficult to compare actions on, for example, climate change and resource protection in terms of even human welfare, let alone to include wider intrinsic worth, but a process which sought to establish key priorities (even subjectively) would have a number of benefits over the current all-inclusive ‘wish-list’ that gives no guidance.

*Assessing Opportunity Cost* – It is clear that some sustainability objectives will take precedence over others, especially when relevant actions are competing for financial, staff and political resources from a limited pool. Nevertheless there is a wider discussion on opportunity cost<sup>2</sup> to be had, which has so far not been raised in official documentation. It is extremely likely that if Wales moves faster than other regions towards sustainable development, economic growth *will* suffer in the short term, as encouraging sustainability places costs on businesses and households. There must be a genuine debate with the Welsh public and civic society on the question of whether the potential for longer-term ‘success’ and the adoption of a sustainable value system is worth dampening or forgoing economic (and potentially employment) growth, and implementing policies which seek similarly to dampen personal consumption. Here there is the potential for costs to accrue unevenly across society. Lower income households may be less able to adapt to a new economic paradigm; the less educated, less informed and more excluded may be not be convinced of the need for a radical reassessment – particularly as it may (as in the case of global climate change discussions) involve denying the less well off potential access in future to the goods and services of the consumerist society that are enjoyed by the currently better-off. Such equity issues will necessitate careful consideration of how we revisit our value systems, assessing

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<sup>2</sup> The [net] benefit or revenue forgone when a resource is withheld or withdrawn from alternative productive use.

whether there might be a quasi-religious 'revival', where all parts of society adopt 'better' behaviours driven by personal morality even in the face of some personal denial, or whether a paternalist approach, with political and civic society deciding what is best for all, remains the only option.

*Carrots and Sticks* – The Assembly and local governments must not only prioritise policy actions and allocate resources, but also determine the most appropriate policy actions. Currently, in terms of policy specific to Wales, there is an abundance of carrots, but few (if any) sticks. Assembly policy has focused upon enabling and encouraging businesses and households to behave more sustainably (for example through subsidies on bus travel and the Green Dragon business award), and in some cases providing suitable infrastructures in the hope they will be used (e.g. the limited new rail construction). Whilst such measures will affect the relative prices of sustainable and non-sustainable options, they can do so only at the margins, and will not drive wholesale change. Wales is faced with a clear choice between waiting for the market, Westminster or the EU to make unsustainable behaviour prohibitively expensive or implementing policies actively to discourage such behaviours *over and above other regions* – such as congestion charging; taxing road use/office parking spaces or actively subsidising sustainable behaviours (for example through business rates). It is legitimate to exclude such options after debate but to do so is to accept that Wales' path to sustainability will be largely dependent upon (and only as rapid as) that of the UK.

*Establishing and Extending our Sphere of Operations* – The Assembly can only act in a number of policy areas. As well as not having access to the fundamental levers of economic policy (fiscal, monetary and exchange rate policy) there are a number of areas specific to sustainable development where the Assembly is in part or whole constrained. For example, energy policy is partially a Westminster function and wholly so on nuclear development; meanwhile deregulation of bus services means that the Assembly, unlike the Mayor's Office in London, cannot prescribe the nature and scale of routes to maximise usage and enable a truly integrated transport system. The Assembly must decide whether its current remit is wide enough to make a genuine difference to Wales' sustainable prospects, and if not, in which areas further devolution might have the biggest potential impact. Sustainable development issues should be at the forefront of

discussion regarding the implementation of the report of the Richard Commission which suggested tax varying and legislative powers.

*Providing a Consistent Message* – The Sustainable Development Scheme and Action Plans show that the Assembly is committed to the sustainability of its own activity and that of its agents – for example on use of renewable energy, efficient design and waste minimisation. However, it is problematic that sustainability is not a consideration for many mainstream and high profile economic development policies and tools. There is, for example *no* requirement on businesses which benefit from Assembly support through the £14m *Knowledge Bank for Business* to behave sustainably, and success measures for that programme are solely economic in nature. Equally, high profile Assembly sponsored events such as the Rally of Great Britain or Ryder Cup 2010 may have significant environmental impacts but there is no sense in which Assembly support is dependent upon the minimisation of such impacts – or indeed, no evidence that environmental variables are considered at all. The consistent application of sustainable development criteria to all Assembly economic policy actions must be a priority if the Assembly is to have much credibility as a force for sustainable change.

*Appropriate Evaluative Mechanisms* – The Assembly must consider whether its current evaluative mechanisms (and those it adopts from Westminster) are appropriate to sustainable development needs. The publication in draft of *Wales: A Vibrant Economy* suggests moving away from simple GVA and employment measures of success to a wider range, including environmental measurement tools such as satellite accounts and ecological footprinting. However, appraisal of individual projects is still reliant on a variety of tools including economic impact analysis and cost–benefit and cost-effectiveness analysis as suggested by the Treasury *Green Book*. Whilst the Green Book does suggest a number of ways in which environmental considerations can be incorporated into project appraisal, it is far from definitive on the subject. Moreover, the Green Book approach remains to estimate a monetary value in *current* market prices to environmental assets where possible, and where not, to qualitatively assess their value to *human* populations. Neither of these approaches will always be appropriate. Moreover, Green Book practice on discounting future values (whereby the value of future income and benefit is depreciated at 3.5% per annum) may be simply wrong if the

assets and resources under consideration are not depreciating and possibly appreciating in value over time.

Clarifying the Assembly (and public's) stance on the above matters is important; equally important is the detailed visualisation of a sustainable Wales. Only this vision, malleable as public opinion develops and reactive to the economic and environmental context, can inform the debate about the nature and force of the policy tools needed to place Wales on the path to sustainability. Earlier sections have noted the difficulties of predicting the future environmental and economic context. However, if we accept that the future is overwhelmingly local – in production, consumption, work and leisure – there are a number of characteristics that we can attribute to this future that will hold for a range of possible environmental outcomes. Similarly, these characteristics might suggest the broad policy actions needed to prepare Wales for its sustainable future.

*The Central Importance of Communities: Working and Playing Where we Live* - A globalised economy and culture has significantly weakened the links between households and communities. Basic human needs from foodstuffs and entertainment to security and work are supplied over great distances, by the State and by large multinationals. Many more of these needs may necessarily be locally supplied in a transport-scarce future, and here a strong and diverse geographically local community, rich in social capital, will be invaluable. It is therefore problematic that the 'community' (and its rounded development) does not fit well into the mainstream economic development paradigm. Communities are often claimed to *benefit* from development, but it is rare that they are themselves thought of as actual or potential economic actors, or as a potential source of comparative advantage; yet the quality and safety of the local community has a central impact on social welfare. Communities currently receive a good measure of policy protection, from planning laws aimed at retaining their retail attractiveness to policies on social exclusion aimed at rehabilitating the economically outcast. There may be a rationale for investing far more heavily in future-proofing communities so that they can retain their functional use; from a rapid extension of the *Broadband Wales* scheme to active subsidy for companies that offer retail and other services locally. The development of 'lower-impact' communities is a key part of Assembly sustainable development policy. Yet the mantra of competitiveness, innovation and 'knowledge economy' does not give the community a strong economic role. They may be offered this

role in future as the economic forces that have weakened them turn tide and advantage towards the local. Current development policy should do all it can to ensure that communities are still around to take advantage.

*A More 'Self-Sufficient' Economy?* – Much of the angst regarding Wales' competitive performance globally is well founded. Our current levels of consumption are based largely on the twin pillars of the export value of our work, and within-UK transfers that are net beneficial as we are a poor, peripheral economy. There are undoubted pressures on our competitive position due to the eastward drift of manufacturing and many technology-delivered services, and the low presence of tradable services. Additionally, it is possible that transfers from the rest of the UK to Wales (or from rich to poor) may decrease in future if increasing environmental costs result in lower welfare levels across society. However, in the longer-term our competitive position may in fact improve, whilst our consumption behaviour and hence demand for non-Welsh goods decreases. For example, Wales has substantial deep and surface coal reserves (over 200 million tonnes) that are currently uneconomic and cannot be cleanly burned. It is more than feasible to suggest that this is an appreciating resource, and will become of economic use as clean coal technology develops and alternative energy sources become more scarce. There is, however, an important economic point here. The market will demand available coal as soon as it is the lowest cost-per-therm option 'well to wheel'. This implies that reserves will be stripped without maximising long-term economic rent for owners (as has happened with North Sea gas and oil, much of which has been sold in times of energy glut). Avoiding this scenario (and keeping reserves until they can command a higher price requires either direct ownership by the public sector, or a system of long-term rights allocation that only allows extraction when it is determined to be of maximum use to *Wales*. Such policies – which might be replicated for other reserves, may serve to increase welfare in Wales whether the resources are eventually traded, or used locally to greatest effect (for example should the apparent movement of the Gulf Stream result in a far colder UK in future increasing the value of energy reserves). It is important to remember that public ownership of such reserves is far from unknown in the UK (indeed still exists for forestry) and could perhaps be implemented at relatively low cost, given the reserves' current uneconomic status – should the Assembly have the necessary legislative power.

Growing environmental and resource pressures may substantially increase the economic costs of production once the benefits of globalisation have been fully extracted. This suggests that some policy options and investments may be very time-limited for governments (and the Assembly in particular) that must engage with their constituencies to gain acceptance for what will be in many cases radical changes in government policy encouraging (or forcing) sometimes radical changes in behaviour. The following, concluding section reflects on how this might be achieved.

## 6) Conclusions

Mr Blair said: "Hands up round this table how many politicians facing a potential election in the not too distant future, who would vote to end cheap air travel?" Seeing no arms at first, Mr Blair said: "Right – none".

"Blair rules out cheap-flight tax"

*The Times, 9th Feb 2005*

"We know what happens to people who stay in the middle of the road. They get run down."

*Aneurin Bevan*

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The consideration of sustainable development is a legal duty of the Assembly. However, the Government of Wales Act requires only that the Assembly consider and monitor – not that it *acts* in advance of any other region. Treating sustainability as one of a number of areas of potential policy action will not lead to radical and focused action – the payoffs are too-far distant and too uncertain to compete with hospital beds, teachers and jobs. The Assembly recognises this, citing sustainability as a ‘cross-cutting’ theme. There is perhaps, a danger here that because sustainability is everybody’s business, it is nobody’s – that the Assembly will lack a champion with sufficient power and personal interest to place sustainable actions truly at the heart of all Assembly policy. The likelihood of such an outcome is increased if high profile Assembly policies and tools (support for the air industry at Broughton and Rhooose; major sporting events; LNG developments at Milford) seem to have undergone no (or only a very partial) environmental evaluation. Moreover, there is currently no presumption that businesses which benefit from Assembly support (for example through the *Knowledge Bank for Business*) will be either in environmentally ‘friendlier’ sectors, or will be subject to any sustainability appraisal as part of their obtaining support – this despite the fact that environmental reporting by businesses is increasingly common (e.g. encouraged by the *ACCA Environmental Awards* and Wales’ own *Green Dragon* environmental management system).

It may be, of course that there is a prevailing wisdom within the Assembly and Welsh civic society as a whole that Wales, as a small nation, can do little itself to move to a

sustainable economy, but must wait for technical, regulatory and market developments at UK, EU and global level. The alternative – to suggest that there is something about Wales and its residents which means we can take greater steps than elsewhere – requires far more work on everyone’s part.

#### *A Welsh Development Philosophy?*

Sustainability in Wales cannot progress substantially ahead of other regions in the UK or abroad, as long as development policy operates under the same precepts and assumptions as elsewhere. If we cannot develop a distinctively Welsh economic paradigm with which to guide policy determination we will be forced by our position as a peripheral economy (with access to few levers of economic control) and a marginal research base to follow where others lead. The alternative requires a far more basic (and perhaps painful) re-evaluation of what (and who) our economic development and our economy in general are *for* and what the Welsh public consider of real value. Yet this re-evaluation may have significant long-term competitive benefits and build on good work that already exists in Assembly sustainability (and more recently, potentially science) policy. The discussion that informed this paper provides some broad indication of what the ‘Welsh development philosophy’ might look like (Figure 3).

Characteristics could be added to or taken away from this paradigm, statements strengthened or weakened, without losing the overall sense that this is something very different from the current Welsh development context, and that followed elsewhere. Adopting this paradigm in the short or long term has massive implications. For example, a graduated switch to local production would mean a diminution of multi-national presence in Wales as the Assembly Government no longer chases or subsidises such investment. Hard thought would have to be given to the nature of employment that might replace that dependent upon such investment – for example there will be ample employment opportunities consequent on the physical regeneration and ‘low-carbon enabling’ of our communities, but these might, in the short term require active subsidy from other parts of Welsh society, via perhaps an Assembly with tax-varying powers hypothecating extra taxes for environmental ends. More fundamentally, this distinctive philosophy could only develop in tandem with a shift in Welsh individual values, away from measuring success in terms of income and consequent consumption, and towards a viewpoint which values more fundamental quality of life indicators such

as clean air and water, a pleasant environment and satisfying work, and the satisfaction of not achieving the good life at the expense of other communities' and nations' well-being and sustainability.

<b>Figure 3: A Welsh Sustainable Development Philosophy?</b>
Understands that society and its economy are wholly dependent upon the environment but not <i>vice versa</i> and treats the loss of irreplaceable resources for economic appropriately
Accepts both the intrinsic and economic importance of those natural resources
Is mainly local and community-led in production, consumption work and leisure.
Does not rely solely on markets to attach long-term value to irreplaceable resources
Has a higher level of public sector involvement in economic life than is currently the case, for example in the management of resources
Actively plans and regulates current socio-economic activity for a low-carbon future
Values improvements in welfare for lower income groups more than increases in overall wealth
Attracts and retains people who empathise with the ethical stance that the philosophy adopts, to social and economic benefit
Measures welfare improvements in absolute, not relative terms

Central to any shift in individual value systems will be the exposition by the Assembly and its partners of the rationale for the move, and an explicit tying of individual policy tools and incremental targets and goals (e.g. for 5 or 10 years hence) to a long-term vision. This vision need not be of a hair-shirted future where only basic needs are answered, but one where a low-impact, local economy delivers more than adequate welfare for Welsh citizens. In a future where work may be weightless, and productive citizens live where they choose (enabled by a vastly increased use of ICT), a high quality, protected environment and an ethically sound economic structure may prove to be a significant comparative advantage in the attraction of labour

This paper has noted the need for a full and frank debate on any sustainable future for Wales; one that is not yet occurring. Whilst this debate must largely be led by the Assembly and its partners (Cynnal Cymru, of course among them), it is not clear that the adversarial party political context is the most helpful environment. Those of different political stripes will of course have genuinely differing views on environmental issues, but the short-term payoff associated with the electoral system may combine with inter

(or intra-) partly rivals to stymie genuine, high quality debate. There may, then, be a case for this critical debate to be either all-political (i.e. gain cross-party support) or non-political. One option may be to guide the debate at arm's length from the Assembly (for example as the Richard Commission did on Assembly constitutional issues).

Cross-party support for such a commission would enable a more long-term and composed debate to occur. Here a frank discussion of the costs, benefits, opportunities and risks involved in implementing a new philosophy can gauge initial public response, and determine the key behavioural and attitudinal barriers that may stop us from acting more sustainably. Only following this debate can the Assembly move to implement necessary policies, and appropriate necessary powers.

### *Conclusion*

There is extensive evidence globally that continuing with current productive and consumption behaviour will degrade the environmental carrying capacity of the planet substantially, if not critically, whilst having massive welfare implications for populations worldwide, particularly through climate change impacts. Whilst the Welsh Assembly Government (like many others) has wholeheartedly embraced the concept of sustainable development, there is as yet limited evidence that our path is any more sustainable than previously – despite much evidence that radical and immediate change is the appropriate response to these pressures. The lack of a coherent and nuanced set of sustainable development policies and evaluative tools across the range of policy arenas may be due, in part, to an imaginative deficiency – we perhaps cannot use the generalised statements on, and definitions of, sustainable development to visualise how a sustainable Wales would actually *work*.

This paper has provided one vision of a sustainable Wales – and suggests that we can develop a truly Welsh sustainable development philosophy that is coherent, clear-cut and speaks to what is culturally important to the people of Wales: community, equity and quality of life. This is, however, a vision of the future – a sustainable Wales will not arrive for decades hence. Moreover, this vision may be fundamentally *wrong* – if marked technical progress can address the resource use, equity, pollution and climate change implications of current economic systems in a way that enables the continuation of globalisation largely as we know it. If, however, our vision is considered to represent a

likely scenario for future development, then it is incumbent upon the Assembly, all its partners *and* Wales as a whole to ensure that the steps needed to push Wales onto the path to this sustainable future are taken across the range of current (and potentially, future) Assembly policy areas. Incorporating a long-term vision of a sustainable Wales into day-to-day policies, avoiding short-termism in the pursuit of long-term goals, and having the courage to take radical and contentious decisions to safeguard our future – and that of the planet – are the most pressing matters facing Welsh society.

## Appendix: Bibliography and Further Reading

### Welsh Assembly and UK Government Documentation

Welsh Assembly Government *Sustainable Development Scheme, Action Plan & Annual Reports*

<http://www.wales.gov.uk/themessustainabledev/content/newsite/archive-e.htm>

Welsh Assembly Government *Wales:: A Vibrant Economy – the Welsh Assembly Government's Strategic Framework for Economic Development*, 2006

<http://www.wales.gov.uk/subitradeindustry/content/wave/wave-e.htm>

HM Government and Devolved Authorities (2005) *One Future Different Paths - The UK's shared framework for sustainable development*

<http://www.sustainable-development.gov.uk/publications/index.htm>

House of Commons Select Committee on Environmental Audit *Thirteenth Report - the Sustainable Development Strategy: Illusion or Reality?*, 2004

<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmenvaud/624/624.pdf>

### Articles & Books

Commoner B (1971) *The Closing Circle – Nature, Man and Technology* New York: Knopf

Daly H (1980) *“Steady-state economics”* Washington, D.C: Island Press.

Diamond, J (2005) *Collapse: How Societies Choose to Fail or Survive* New York: Allen Lane.

Duncan R & Youngquist W (1999) Encircling the Peak of World Oil Production *Natural Resources Research*, Volume, 8, Number 3 219-232.

Foster J (ed.) (1997) *Valuing Nature: Economics, Ethics and Environment* New York: Routledge.

Gowdy J & Mayumi K (2001) Reformulating the foundations of consumer choice theory and environmental valuation *Ecological Economics*, Volume 39, Number 2, November 2001, pp. 223-237.

Price C (1993) *Time, Discounting and Value*, Blackwell, 1993, pp.393. Available electronically from [c.price@bangor.ac.uk](mailto:c.price@bangor.ac.uk)

Price C (1997) Analysis of time profiles of climate change. In: Adger, W.N., Pattenella D. and M. Whitby (eds) 1997. *Climate Change Mitigation and European Land Use Policies*. CAB International, Wallingford, UK, pp.71-87. [This moves to a conclusion that we need to make massive and immediate changes, just to avoid things getting worse.]

Price C (2005). How sustainable is discounting? In Kant, S. and Berry, R.A. (eds). *Sustainability, Economics and Natural Resources: Economics of Sustainable Forest Management*. Springer, Amsterdam, pp.106-135 (2005).

Rudd M (2000) Live long and prosper: collective action, social capital and social vision *Ecological Economics*, Volume 34, Number 1, July 2000, pp. 131-144 (14).

Spash C (1999) *The Development of Environmental Thinking in Economics* Environmental Values Volume 8, Number 4, pp 413-435.

## **Sustainability Resources & other Links**

Intergovernmental Panel on Climate Change (2001) *Climate Change 2001: IPCC Third Assessment Report* [www.ipcc.ch](http://www.ipcc.ch)

New Economics Foundation *Mirage and Oasis: Energy choices in an age of global warming* [www.neweconomics.org](http://www.neweconomics.org)

Association of Chartered Certified Accountants - *The ACCA UK Awards for Sustainability Reporting* <http://www.accaglobal.com/sustainability/awards/susra/>

Welsh Assembly - *Green Dragon Environmental Management Scheme* <http://greendragonems.com/>

The Sigma Project (2001) *The Sigma Guidelines: Putting Sustainable Development into Practice* –A Guide for Organisations <http://www.projectsigma.com/Guidelines>