Framework Paper for the Sustainable Development Commission

Miriam Kennet and Volker Heinemann
The Green Economics Institute: April 2008
greeneconomicsinstitute@yahoo.com

Redefining prosperity: Visioning a scenario where conventional growth is lower or zero. Reworking economic policy aggregates and the 'trade-off' between economics and ecology. Economic policies for the government implementation and management of an economy.

Lower or zero growth could offer a realistic scenario, particularly for the future of the economy of advanced societies. This might arise from a variety of possible causes ranging from deliberate attempts to reduce growth in order to achieve sustainable development in society as a whole, or from the natural or cyclical levelling out of conventional, unadjusted economic growth, without any deliberate action being taken for whatever reason. Growth forecasts have become bleak recently anyway but it is too early to tell whether this is a short term phenomenon or the beginning of a longer lasting trend. Growth forecasts from the Treasury in the UK Budget 2008 were 1.75% in 2008 and 2.75% for 2009, but this was revised downwards by the IMF and 1.4% are now forecast for the Euro zone.

On April 9, the IMF released its latest World Economic Outlook, which reports on what it terms " a major financial crisis, especially in advanced economies, with global expansion now loosing speed" (IMF 2008:1) and it is predicting global growth of 3.7 percent in 2008, down from 4.9 percent in 2007 and with little pick,up in 2009—at around 3.8 percent. Moreover, there is a 25 percent chance that the growth will be 3 percent or less in 2008 and 09.
The cost of the global credit crunch from over lending in the US is expected to reach 945$ US billion, and total losses so far declared are $193 billion. It is yet uncertain how growth rates will recover in the post credit crunch era.

This has come at a time of changes to the economic structure of the global economy, the highest rise ever in the price of many raw materials, including petrol reaching 100 US $ a barrel, with the US$ falling and the US economy being on the brink of recession. Competition between land for biofuels and land for food and has pushed up food commodity prices significantly causing unrest.

Economic growth is still an integral part of peoples' expectations from government economic policies. Growth has up to now, generally been accepted as a essential, critical and viable constituent of economic policies, especially at times or situations where not only short term economic prospects are worsening. However, but due to a lack of cheap resources a new sense of a possible fundamental limitation to growth potential is emerging, that growth rates globally might start to reduce in the long term.

Aims of economic growth

Very recently it has become apparent that the justification for a continuing policy for ever increasing economic growth, defined conventionally as measured as increases in GDP, has undergone a remarkable transformation.
Consumption was specifically encouraged in order to stimulate markets, rather than to meet people's needs, and this ignored the limits or requirements of other species or the planet.

Demand was all the time, managed upwards - Predict and Provide, for example has been the policy for transport. Managing demand upwards has been considered good economic management for decades and has been artificially stimulated by advertising.
In the aftermath of the Hyperinflation of the 1920s and the destruction and hardship of WW2, new aims for economic policy were established. It was believed that the provision of increased volumes of goods for consumption would tend to halt the rise of communism and would lead to more stability and well being. (W. Rostow)

The perception of the evolving economy influenced by Darwinism, developed into a linear progression from "primitive economies" of indigenous peoples and subsistence conditions, through an economic "take off period" and towards the end goal of "High Mass Consumption" (Rostow). The idea was that lack of economic growth was equated with primitivism and under-development and that economic growth would lead everyone out of poverty. (Sachs)

On a theoretical level, the drivers of such growth are considered to be an evolutionary improvement in the quality of human capital stimulating an increase in the rate of technological progress. Galor and Moav (2001, 2002).

Social security can create faster growth via new technological advances

Sharing of common processes occurs as generic basic knowledge spreads and converges in the population. The development of Open Source is an interesting example for other reasons. This most profitable sector was largely developed during a cyclical downturn when most of the "anoraks" were out of work and not paid. They were living on benefits paid for by society. When the market picked up again, the whole economy was able to capitalise on this expertise, and Open Source has made a serious challenge to the market leaders.

The lesson here is that using all the expertise in society is important, without creating boundaries between the formal and informal economy or the paid and unpaid as in the end society wins from all its developments and all its evolutions. Therefore there is a possibility that supporting everyone properly in their social activities – not just in the formal economy is a huge win for everyone, which is totally contrary to current thinking on incentives. This is one main thrust of argumentation in this paper, that with a careful design,pre-- supposed or pre-alleged trade offs between ideas or incompatibilities of aims and objectives have a good chance of actually being found to be incorrect and therefore opening up the possibility of overcoming them.

A report was published last week showing that women around Europe are not paid for up to 20% of their work and this work is not then recorded as a contribution to GDP. This means that we now know that current GDP and growth figures are therefore highly inaccurate and misleading in terms of an indication of value in the economy. Some of the worst offenders include the UK paying women 20% less and Germany paying 22% less. There are many consequences for today's economy of this situation including possibly women having to actually work longer in the formal economy than men for equivalent reward and also other research shows they also work longer in the informal economy. Direct results may be causing some of the very poor youth dissatisfaction figures the UK is registering. So in fact harbouring a nostalgia for our golden age of economic growth and well being is partly illusory. This is an area urgently needing economic adjustment, but has been delayed as it has been regarded as politically unobtainable. (Der Grosse Unterschied, Die Welt,15th April 2008,WSI-Frauenlohnspiegel, Eurostat, Hans- Boekler-Stiftung.)

The suggestion we would make is to include all work which benefits society within the GDP figures. This would have the additional benefit of increasing reports of growth, just at a time when a down turn is occurring. The mechanics of how this might work, is attracting more interest. Degrowth or 'Decroissance', (which is a more positive idea than its equivalent expression in English) or *serene downscaling* is becoming fashionable in France. Latouche (2003) questioned if the only way to happiness is more growth, more consumption and more productivity, and complains that growth for its own sake becomes the actual aim of society. He claims it's unsustainable as it pushes the limits of the biosphere, and that each person should really only require 1.4 hectares as their ecological footprint, not the 4.5 currently in use in Europe.

He argues that eco efficiency has been created to decouple growth from resource use, but that in accelerating economic growth as a result - the "rebound effect" actually means people simply use the same resources or more with the increased economic buying power they thus create.

However the world population has now increased to 6.6 billion people and the Earth itself cannot support 6.6 bn people based on a high mass consumption at the levels of developed countries.(Limits to Growth).
The power houses of world growth China and the US are currently challenged by both ecological and economic limits.

Trade off between ecology and economics - Eco innovation

Porter and van der Linde 1995, argued that a fixed trade off between ecology versus economy is false and if environmental standards are correctly devised, the resulting standards will spur innovation, and actually increase productivity, making firms more competitive. Environmental protection and competitiveness are not trade offs. Eco innovation is actually driven in an environment of regulation.

INSEAD (European Business Summit 2008) has just produced a report showing that the best way for European business to grow is to attract venture capital to finance Eco innovation and to take the lead in this fourth industrial revolution, which will lead to smaller more local units founded as previous revolutions on energy and knowledge, with a fusion of these factors into knowledge and energy products created at the point of use. (Jeremy Rifkin 2008 European Business Summit 2008)

The New scientist has just carried a fascinating article, which argues that the very interconnectedness of the global economy carries within itself the seeds of its own destruction. It argues that civilisation is too complex which makes it too vulnerable, and she describes why the demise of our civilisation may now be considered to be inevitable (Debora MacKenzie 2650 New Scientist. 2 April 2008.) A more localised and grounded system is more likely to last, because once a society gets beyond a certain level of complexity, it becomes increasingly fragile to with stand outside pressures.

Over decades our economy has been designed to incorporate growth at its centre. Where such growth is not achieved, this particular structure of economy will encounter severe problems and additionally political actors will face strong pressures from the public and from various interest groups to reinstate the situation everyone is used to.

It is those fears of loss of political power, stability of the society and fear of changing our own habits that have more and more contributed to growth becoming almost entirely a goal in its own right. Society continues to maintaining growth paths even if the underlying activity becomes more difficult to justify or even contradicts more recently recognised foundational issues like climate change or environmental degradation on a global scale.

There are some 'trade-offs' between economic activity and ecology in direct comparison, but most of the alleged 'trade-offs' are actually at the level of these conventions, suppositions and beliefs rather than at the level of factual problems.

Green economics assumes that there is no contradiction between economics and ecology. (Kennet and Heinemann 2006). Eco-nomics and eco-logy both originate with the same root concept , (oikia the household) and therefore Green Economics always includes ecological considerations and argues that no economics can exist without ecology.

The problem is that currently a narrower definition of economics is prevailing that prevents such comprehensive considerations being part of mainstream economics. The economic structure, the population got used to, is difficult to change for the very reason that people are afraid of change.

In addition a social system such as the economy is almost entirely governed by self fulfilling prophecies, or less strictly, there is scope to change many things in the longer term that appear impossible to adjust in the short term.

Furthermore precisely the same properties of social systems can be used by political forces for the deliberate manipulation of public opinion and to guide the way the economy can or cannot be transformed. (The growth economy encounter*s prob*lems in cases of no growth, hence all effort is then geared towards growth. Policy makers and economists have not engaged in envisaging what the eventual structure, effects and benefits might be of a change to a fundamentally lower growth scenario, as it will need to develop with different structures and circular loop-backs but of a completely changed nature or composition. Suddenly, this has become are more realistic prospect and the task is more pressing.

A successful political strategy will require a careful assessment of where there are real 'trade-offs' between core economic aggregates and sustainability concerns and where the degrees of freedom are, and where it is actually possible to change the structure and composition of economic activity quite significantly.

This paper will argue that there is significant freedom for change, far more than conventional economic research tends to suggest.

Separating growth from stabilisation

It is furthermore proposed that it is entirely possible to reduce opposition to changes in the economic structure using a specific political design strategy.

This political strategy would split the task into two periods, the transitional period and the advanced period. During *transitional period* where the emphasis is placed on the problems arising from facilitating change and on gaining evidence of how economic actors react to the initial political changes implemented.
During the *consecutive period* involving more fundamental adjustments to the economy and implementing benefits from the information obtained in the transitional period. It should be possible to clearly separate growth issues from stabilisation issues in this period.

It should be clearly possible to focus on the true final goals of the economy and incorporating all ecological issues simultaneously. This means an end to tweaking growth into ever different purposes which are not in line with the most important objective of the economy of providing people with a higher quality of life.

Transitional period:

In this period the emphasis is on relatively straight forward substitution processes. (product A for B or production process A for B) The economic structure is as almost everything in the economy, a product of self regulating market forces. As those market forces do not take into account a large number of phenomena they are never optimal in any objective way. They reflect the current economic activities of the economic actors and are efficient in co-ordinating detailed production and consumption. During this initial period sustainability considerations can be implemented by focussing on substitution of one economic activity for another including promoting research into further alternatives.

The outcome of such substitution should be designed to ensure that the overall level of economic activity provides for enough employment opportunities for people and earning activities for businesses.
The economy will effectively change but only by technical fixes where one area where economic activity ceases will be replaced by other economic activity in a way that is less harmful.

It is intended to keep the overall level of activity roughly similar to the conventional path and it might even be the case that economic activity measured in conventional GDP terms increases as low quality and cheap products are replaced for higher quality, longer lasting items etc.

This period will help to convince the general public in particular that the changes in the economy are required even in conventional terms, as otherwise it is very likely that the economy will continue on a growth path of not more than 2% p. a. for most of the developed world.

Changing the structure of the economy will require higher investments and will provide earning opportunities for the businesses involved in such a change.

The main difference is that a new more wider defined economic scope and goal will become the basis of the economic action and the basis of policies that shape society. The methods to move towards those goals are designed to make this first step less painful.

For every industrial activity that is abandoned, new industrial activities are selected that ensure that the balance of employment is at least maintained. There is no need for any more sophisticated adjustments to the economy. Where for example overall activity has to be limited, and under the assumption of further productivity increases, adjustment need to be made so that the remaining, limited amount of available work has to be more evenly distributed among all potential employees.

Even under conventional economic development the increases in productivity require a constant increase in economic activity to maintain even the same level of employment. This is the most important driver to promote ever further economic growth as it appears to be difficult to gain support for shorter working hours among the general public, hence if all people want to work the same increasingly productive hours the resulting higher volume of goods produced need to be sold.

The substitutional options are however limited, as at some point all benefits that can be derived from switching materials or processes but not the intention and aims will have been exhausted. Any efficiency gains will have themselves come to an end and correspond to the law of diminishing returns. The problems are shifted into a different more abstract area of debate where political aims are disguising the real economics facts and necessities and these political aims are delaying or hindering change.

When this transitional period comes to an end, which is determined by the lack of availability of substitutional solutions (forced exit) or the fact that society has already been convinced that a stable path via different means and with different objectives is possible, the issue of economic stability without growth will have to be tackled face on.

It will now no longer possible to move along traditional lines of economic development by increased activity but it will be necessary to stabilise the economy (employment, income, profits etc) directly.

The following main economic areas require changes and policy adjustment that are however less difficult than is conventionally thought . Over longer periods, perceptions and attitudes can be easily adjusted even though they are often presumed in conventional model building to be fixed.

There is no fundamental economic reason, why the current methods of maintaining economic activity should be the only way possible and why society is condemned to ever increasing GDP growth activity.

It is however required that specific adjustments to the mindset of the public and how economics is viewed are needed that are nevertheless achievable if a carefully designed strategy is selected. The following main areas are of particular concern:

Employment:

As has been identified above, the maintenance of a high level of employment is one of the driving forces behind the political and economic desire for continuing growth.

For the foreseeable future it is highly likely that there will be continuing productivity gains in the economy. Not all the existing technologies have been fully absorbed by businesses and further technological advances mainly in the area of micro electronics are likely.

Micro electronics in particular has structure that is different to other areas of technical change, the new inventions do not only lead to **new products** but to **new production processes** that have been replacing labour with machinery (capital).

The question that now arises is whether a change toward sustainable development makes this situation worse or whether it contributes to an improvement in opportunities for employment.

Effectively examples exist both ways.
Reducing excess packaging and recycling of goods obviously reduces the material flows and will therefore reduce employment in raw material producing industries, but recycling itself is relatively labour intensive and therefore creates significant employment opportunities.(Murray Zero Waste)

In this context it is interesting that the public and even sometimes academic debate about economics realises that environmentally friendly products or processes are more expensive, and identifies this as entirely negative, but fails to see that this higher price is due to the higher labour contents in the products or processes concerned, which is clearly a positive as far as employment opportunities is concerned. Organic farming produces high value products that are more expensive than conventional produce because they are produced to higher standards and with less machinery and more labour. Every unit of GDP generated will result in a higher level of employment created.

In this respect it is important to identify that particularly the price relation between capital and labour provides great scope to mitigate any potential loss of employment due to the deliberate adjustment of the economy towards sustainability.

If for example social security contributions are paid for by labour and not capital, labour usage in the economy is reduced. Particularly during the transitional phase it is possible to implement changes to the **labour/capital price relation** towards *a higher contribution of capital towards social security that together with a selection of labour intensive sustainable processes should minimise any loss of emp*loyment opportunities or is even likely to contribute to employment gains.

In the longer term it is however possible that those means are not sufficient and lower growth or no growth is inevitable, regardless of the sustainability considerations because even conventional growth requires conditions that cannot be maintained in the long term.

An advanced society may well move further up Maslow 's hierarchy of needs towards higher preference for security and hence savings and less consumption, but it is not certain as the rebound effect mentioned above suggests otherwise.
Current trends on heavy advertising suggest that it might well be more difficult in the future to

persuade people to consume more. This is however culturally determined - eg Germany's and Japan's fashions for savings are stronger than in UK.

Given finite time constraints on consumption, only a certain volume of consumption can be comfortable and sensibly achieved, within that time before even consumption in total suffers from declining or even negative marginal benefits. A good example of this is of too much eating, currently causing a pandemic of obesity as people in advanced economies over consume too much food, too quickly. This actually decreases welfare.

Such scenarios might result in an actual decline in available work in the economy if demand stagnates on a certain level and labour saving technological changes continue to be made. This overall level of work available should then be more evenly distributed among all individuals in society, resulting in a decline in individual working hours, or parts of the society will not be integrated in the formal economy but will still continue to require income none the less.

Some recent studies(Schlyter, Sweden) suggest that the highest hours in longer working hours (e.g. The last 6 hours in a 36 hour week) produce proportionally much more environmental damage, in production and in consumption patterns and less marginal benefit and so therefore shortening working hours would have a direct impact on ecology for example, as consumption rates for luxuries would decline sharply.

The current situation in countries with a high level of unemployment shows that significant parts of society are still willing to believe in growth to rectify this lack of employment, maintain their level of working hours and so the social security system has to deal with the resulting unemployment, despite the fact that this unemployment is paid for out of their income by the people working longer hours.

Existing work arrangements should be gradually transferred into concepts where the overall working time available, (regardless of any additional attempts to increase its volume,) more directly determines the individual's length of working hours. Society as a whole has to start to accept making decent, supporting payments to people who are not integrated in the formal economy.

The transitional period will have to be used to make society more aware of economic realities and to implement policies that collect national insurance contributions which will reflect the overall economic conditions and the behaviour of its participants and their actions.

There does however not appear to be a fundamental necessity for the economy to grow only to create employment for employment's sake.

Company profitability, competitiveness and investments

Profitability, competitiveness and level of investments are very diverse issues related to the level and structure of the economy and its development. There are areas such as renewable energy where investment levels are significantly higher. This is because lower density renewable energy like solar and wind needs to be collected at many diverse places.

Higher labour use in producing high quality goods and repairing items in small units contributes to savings in investment volumes required.

The overall level of investments required will be determined by the changes in structure of the economy.

Growth in investments as such may be the interest of the provider of capital who looks for earning opportunities for his capital. However, from an economic perspective the appropriate level of investment is a required quantity derived from the economics aims a society sets itself, not the other way round. If more capital is required for investment into renewable energy, this will create opportunities for capital to be employed. If sustainability can be achieved however by substituting capital for labour to create employment opportunities, then there will be less earning opportunities for capital. For a given structure of the economy, adequate investment needs to be maintained. There is no need to follow the personal interests of any lobby group what so ever.

If a sustainable society requires at least initially higher investments this would normally require higher rates of interest that maintain the level of savings from individuals to supply the funds required.

If it is undesirable that interest rates should rise, then an alternative would be more public funding for the investment projects via tax revenue, or alternatively if savings rates go up due to a change in consumer attitude this will contribute towards the investments for the sustainable future from reduced consumption.

There is no correct level of investment in an economy. There is a required level of investments for a defined purpose of society and as always political feasibility is greatly increased when the general public shares this consensus and acts accordingly.

A stable economy requires savings to be recycled via investments into the economy to maintain output levels.

If the society chooses to downgrade, initially higher savings will not be used for further investments as there is no need for new capacity as a consequence earnings will be reduced that reduce the high levels of savings accordingly.

A move towards a sustainable society is likely to require higher levels of investment and as a consequence higher levels of savings which is particularly relevant for societies with traditionally low savings rates.

A change in attitude will contribute to this automatically but without such change policies to encourage savings will be required if not then the alternative might be higher taxes and publicly funded investments.

Similarly the profitability of businesses can be maintained in different structural scenarios. Over the life cycle of a product there are significant changes to levels of profitability.
However already the Boston Consulting Group matrix suggests that the high growth phase is not the most profitable phase, the maturity phase is suggested contributing mostly to profits.

On the economic level there is no indication that profitability levels and competition are directly related specifically stage of development of a society.
Competition and with it the efficiency of production will increase if markets become more

saturated and supply remains strong. Adequate competition levels can be maintained even in a sustainable society as they depend very much on the structure of the economy (number and size of businesses) and the market behaviour, not the overall growth rate of the economy.
High growth rates of an industry are likely to be correlated to innovation, where new products for new markets are made available for the first time. If such innovation helps sustainability it is welcome and the growth effects are desired. Such businesses are likely to be highly profitable.

Setting a certain goal for society, that may have a strong effect over how the economy operates and over what is produced, does not change the fundamentals of competition and profitability based on individual price setting by businesses.
During the transitional period there should be an opportunity to monitor the structural changes in the economy. Newly emerging businesses that contribute to sustainability should be encouraged to provide compensation or contribute to support for declining industries.
In the longer term where growth rates might be low or zero, competition might intensify as there is no space for expansion left in the market and participants compete intensely against each other.

There might be negative effects of such competition in the form of further job losses that can however be mitigated by an adjustment of the factor price relation between labour and capital. Additional labour costs can be paid for in different ways and using different or lower forms of taxation. This results in investment in labour becoming more attractive where it completes with investment in capital. Labour then remains overall reasonably priced and continues to be used in the economy to a high level.

It should be kept in mind that in any case, the conventional economy incurs many changes over time and in the past there have been periods of intense adjustments (beginning with the industrial revolution, post war structural changes, highly saturated markets today) that have not contributed to a loss of profitability of businesses and competition.

The problem is that if one business decides to produce sustainably and other businesses do not, this business will have a disadvantage (prisoners dilemma) hence the issue of sustainability cannot be left to decentralised market co-ordination in form of the invisible hand.

This creates the misconception among many more business administration focused individuals, that society at large cannot make this transition successfully.
As far as international competitiveness is concerned a move towards sustainability triggers the same issues and problems.

The solution must lie with monitoring of unjustified advantages or disadvantages which emerge during the transition. National standard setting must ensure a level playing field for products that are sold into the domestic market.
Where higher production standards are required, the situation becomes more complicated if other competitors worldwide are not required to do the same. This problem stems from the fact that public concerns of sustainability result in private costs of production for businesses but only for the businesses that are required to make the changes.

The preferred solution would be international agreements on basic standards that are consecutively made stricter by bodies like the EU that negotiates those standards with other parts of the world.

If such a situation is not feasible, imported goods may require a price adjustment, if selling those goods is deliberately done to undercut domestic competition. There has been a suggestion for a policy of **Preferred Market Access**- where goods are preferred if they can show or carry a standard showing that they have met certain sustainability criteria in order to avoid environmental or social dumping - (Lorenzen)

In comparison to the other issues discussed above that are more based in the political sphere with typical problems involving the difficulty of convincing people to support change and differentiating economic issues and requirements from interest group opinion. These are real problems on the economic level that require careful consideration..

It might be the case that the drive towards more innovative products makes the economy much more competitive, as the supply of sophisticated products, finds strong demand in other countries, (Brown, INSEAD 2008)

It might be the case, that the structural changes to the economy result in the country being flooded with products that are produced in an unsustainable way, all depending on the perception of the consumer.
If it is not possible to change people's perception sufficiently during the transitional phase to leave the decision making to the individual, there may be a requirement to develop a particular set of rules, regulations or restrictions rather than protection, that set the standards for international trade. Protectionism has been the response so far in favour of sustainability- however it may be that rules and standards and restrictions on quality or impacts have a much more beneficial effect and act as a carrot rather than a stick.
This is likely the most important area where almost a complete change in attitude is required, particularly from academic economics that currently still fiercely resist such suggestions.

Public revenue, finance and debt

The main issue in this area is that a sustainable society is likely to require higher public expenditure as the issues of sustainability facing a society are of the 'public goods' nature, and entail protecting the commons, i.e. they require some regulatory activity from a public body or need to be 'supplied' publicly.

It is therefore likely that higher public revenue is required, alternatively higher public debt might be an option that is equally politically sensitive.

In addition the possible lack of growth will not allow for an increase in tax revenue with stagnant tax rates.

There might be a small effect of 'cold progression' where, due to inflation people move into different nominally defined higher tax bands, but otherwise there is no further indirectly beneficial effect.

The main problem is that more political honesty is required to tax people in order to ensure for the provision of public goods.

This is difficult in practical terms due to political competition but does not raise any specific theoretical questions.

If such public goods are not supplied, because the State is not allowed to demand the adequate resources for their provision, those markets will not exist and the growth of the society is likely to be lower.

In the longer term, lower growth in a sustainable society is matched by the increased focus on and design for the end goals, as well as means to obtain them. (Kennet and Heinemann 2006) The appropriate stabilisation policy as indicated in the employment chapter will ensure that those final goals and individual opportunities and duties will be matched.

Similarly, in the area of finance and debt, people need to be given time to adjust to such a stable scenario.

In the longer term, levels of private and business debt will need to be matched to income and earning opportunities. Rapidly expanding and growing businesses will require finance and will sustain high levels of debt and declining businesses will need to adjust to their market potential.

There is no change to the basics of an ever changing market economy, the only difference is that in a sustainable society final goals are deliberately designed and not left to the automatic outcome of market forces (Smith, Stern). In the long term such a transition requires many individual adjustments that are however theoretically not different to the many adjustments and decentralised co-ordination occurring in the economy anyway.
Problems arise if the public is not willing to adjust their behaviour, for example allowing for more differentiated policies regarding unemployment as mentioned above, or if the government is unable to explain or convince the public about the best course of action.
The sustainable economy will have more such requirements as outlined above and its success hinges finally on society being able to accept or understand that these changes are necessary.

The main strategic suggestion to help with such a transition is the split into the transitional period where relatively conventional methods are used to initiate a change in the structure, which is then followed by a change in the overall level of economic activity, as soon as resistance to change has been weakened visibly by the successes of the policies implemented.

This is highlighted by the reference to international problems that indicate that the change only becomes a real problem if some parts of society or if other countries are unwilling to participate.

This self fulfilling belief of no one wanting to make the first step and therefore preventing change occurring, is the real problem. (Theoretically this is described in situations like the tragedy of the commons or the prisoner's dilemma).

The variety of individual adjustments required below this higher societal level are politically possible to achieve so long as all parts of society start to share the insights into the issue. The continued avoidance of simplistic competitive solutions is preventing higher level solutions being implemented. This fear may well be unfounded and structural changes needed today, do not actually pose the real theoretical threats that are usually ascribed to them. They changes are not so very different to all the small adjustments the decentralised market economies have coordinated over decades and centuries. We should assist the public in learning to understand and welcome such changes and economic strategy makers to be more innovative and bolder in their economic strategy design and embrace today's requirements and wider economics scope much more fully. The resistance of the inevitable change towards a lower growth economy is now leading to a possible global downturn which could be perhaps avoided if new confidence in wider economics scope and ecology were embraced more fully as an opportunity to evolve a more buoyant economy.

References

Brown F. (2008) *Creating a climate for change,* INSEAD Report on venture capital. European Business Summit (2008) Brussels

Bhamra T and Lofthouse V. (2007) *Design for sustainability*. Gower.

Gardiner G. Assadourian E, Sarin. E, (2004) The state of the world. World Watch Institute Report

Gaylor O. and Moav O. (2001) *Evolution and Growth* European Economic Review. May.

IMF World Economic Outlook.Executive Summary on website: http://www.imf.org/external/pubs/ft/weo/2008/01/pdf/exesum.pdf

Hermant P and Russchen W. *Greening the economy New energy for business* Summit Guide - 2008 Edition. February 21/22nd 2008.

Kennet M and Heinemann V. (2006) *Green Economics Setting the Scene*.International Journal of Green Economics.Vol 1 no 1. Inderscience Publishers Geneva.

Latouche S. (2003) *Decroisance: Would the west actually be happier with less,* Le Monde Diplomatique 12th December 2003.

Lorenzen H. Prefered Market Access. Paper for European Greens 2007.

Mackenzie D. (2008) Why the demise of civilisation may be inevitable. New Scientist 2nd April 2008 No. 2650.

Maslow A. (1943) *A theory of Human Motivation.* Psychological Review No.50

Meadows D., Randers J., and Meadows D. (2006) *Limits to Growth The 30 year update.* Earthscan.

Meyer -Radtke M., D*er Grosse Unterschied, Warum Frauen im Schnitt 22 Procent weniger als gleich ausgebildete Maenner verdienen." The big difference, why women earn 22% less than men with equivalent education/training.* Die Welt, 15th April 2008. p.12.

Murray R. (2002) *Zero Waste*. Greenpeace Trust.

Rostow W. (1990*) Theorists of Economic Growth from David Hume to the Present, Oxford University Press.*

Sachs J. (2005) *The end of poverty How we can make it happen in our lifetime Penguin.*

Schlyter C. (2007) Lower working hours Report (details to follow)

UK Treasury Report 2008