

## **Living better, using less – rebuilding a more sustainable, socially just regional economy**

A think piece for Yorkshire & the Humber Regional Forum on the Integrated Regional Strategy

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**nef** has been commissioned by the Yorkshire & the Humber Regional Forum to develop a think piece to provoke discussion and debate on the development of the Yorkshire & Humber Integrated Regional Strategy.

# 1. The Proposition

- The present consumption levels of environmental resources in the Yorkshire and Humber Region are at unsustainable levels.
- Key drivers behind this over-consumption are not only the result of personal choices. Significant levels of over-consumption are the direct result of the types of infrastructure which underlie the economy, particularly those relating energy, transport and regional food systems. A substantial environmental transformation of these structures is required over the next 10 years if the regional economy is to avert the threat of a series of self-reinforcing social, economic and environmental crises.
- The Integrated Regional Strategy (IRS) is a key mechanism to guide and develop this transformation process, and its implementation will require co-ordinated action at the regional and national scale, as well as the local level across the public, private sectors and civil society.
- We propose an over-arching social policy goal for the IRS of Green Well Fair, which is defined as *the fair and equitable distribution of social, environmental and economic resources between people, countries and generations*.
- Combating climate change regionally and locally will require both adaptation and resilience characteristics to be designed into the structure of the economy. Adaptation is the long term increase in capacity to cope with shocks, which will require the climate proofing of infrastructure, investments and activities. Whereas resilience is the ability to cope with external shocks as they arise, which requires the development of abilities to self-organise, innovate and learn.
- We propose that the transformation of the regional economy should be towards a low carbon and high well being future.
- The activities which support the adaptive capacity of the regional economy outlined in this paper include: planning, energy generation and conservation, housing, employment and training, and transport.
- The activities to support resilience qualities outlined in this paper include supporting the development of local multipliers, responsible business support, civil society support, and supporting the development of the core economy and co-production.

## 2. What future do we want?

*In developing the Integrated Regional Strategy the Region is being asked to address how will we as a group respond to the challenges of improving the quality of life for all, in the face of increasingly known environmental limits. What is the future we are trying to create, and what principles should guide our thinking. In this paper nef is proposing three overarching considerations in this debate: what is the Region's fair share of resources and how should these resources be shared, and what will be the impact on our quality of life.*

### 2.1 One global challenge

Research estimates<sup>1</sup> that the richest 7 per cent of the world's population (the world's richest half billion people) are responsible for 50 per cent of the world's carbon dioxide emissions. Whereas the poorest 50 per cent are responsible for just 7 per cent of emissions.

The ecological footprint<sup>2</sup>, the number of hectares required to provide each of us with food, clothing and other resources, of the average UK resident is 5.45 global hectares (Gha). Or put another way, the number of planets needed to sustain the whole world at the average UK levels of consumption would be 3.1 planets. This compares with the average figures for the US of 9.5 Gha (5 planets), Germany 4.2 Gha (2.2 planets), China 2.1 Gha (1.2 planets), and with India and most African countries at 1.0 Gha or less (0.5 planets or less)<sup>3</sup>.

For the Yorkshire and Humber Region the average ecological footprint of a resident is 5.14 Gha, which is broken down into impact by sectors in Figure 1<sup>4</sup>.

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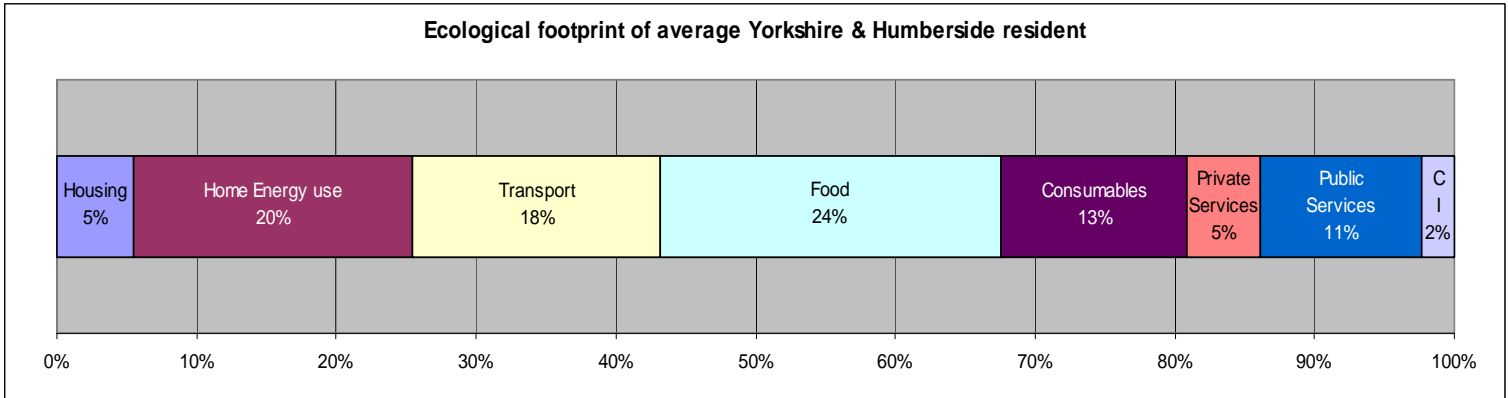
<sup>1</sup> Stephen Pacala, Director of the Princeton Environment Institute, referenced in Simms, A. *et al* (2009) *The Consumption Explosion – the third UK Interdependence Report*. nef

<sup>2</sup> The ecological footprint measures how much biologically productive land and water an individual, population or activity requires to produce all the renewable resources it consumes and to absorb the waste it generates.

<sup>3</sup> Combined sources: Simms, A *et al* (2009); REAP (Resources and Energy Analysis Programme) and BioRegional. These figures however do not reflect the disparities of resource use within countries.

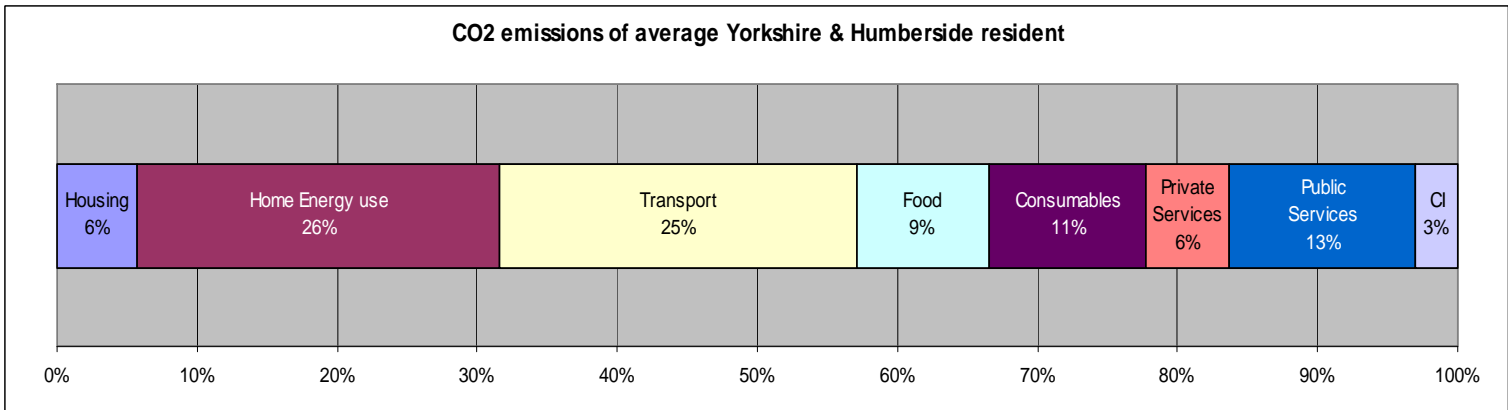
<sup>4</sup> Appendix 1 details a definition of terms used in the calculations. Data source REAP <http://www.resource-accounting.org.uk/>

**Figure 1: Ecological Footprint Yorkshire & Humber Resident**



With CO<sub>2</sub> emissions (including embodied CO<sub>2</sub>) of the average Yorkshire and Humber resident being 11.94 tonnes, which is broken down into impact by sectors in Figure 2.

**Figure 2: CO<sub>2</sub> Emissions Yorkshire & Humber Resident**



The world's ecological resources are finite. Current resource over-use compromises not only their future availability, but without addressing the reason for their over-use - that is, how we currently structure our economy and live our lives - it exposes us to the threat of a series of self-reinforcing social, economic and ecological crises.

The breakdown of impact detailed in Figures 1 and 2 show that if we are to reduce resident's CO<sub>2</sub> emissions and ecological footprint in Yorkshire and Humber, we need to particularly target home energy, transport (use of fossil fuels, construction and maintenance of transport networks), food sourcing and other goods consumed. Given that a significant proportion of carbon emissions are related to the energy used in the production of consumer goods, we will ultimately have to face the fact that in order to reduce per capita carbon emissions to a sustainable level, there needs to be an absolute reduction in levels of consumption.

Jackson (2005) identifies two key drivers of consumption in developed nations which are unrelated to the functional use of the goods and services consumed. The first relates to the symbolic role of consumer goods, that is, goods that we buy as a result of social norms, culture, fashion, status, habits - which are within the power of an individual to change. The second, and more substantial over-consumption driver is for the most part outside of the immediate control of the individual, and relates consumers being *locked-in* to unsustainable consumption patterns. Consumers can be prevented from making sustainable consumption choices due in part to economic constraints, institutional barriers, inequalities in access, and restricted choice. An example of this would be rural populations locked into private transport use because of poor public transport provision.

To address this driver of over-consumption will require a substantial environmental transformation of the economy, changing how resources are used and re-used in the economy, and how goods and services are produced and designed. This calls for co-ordinated action at the regional and national scale, as well as the local level. This is of particular relevance to regional economies, such as Yorkshire and Humber, where there is a high dependence on fossil fuel energy use for transport, the food system, and home and industrial energy use. Unless this dependence is addressed, and the economy is restructured over the next 10 years to adapt to climate change, the declining availability of oil, gas and coal<sup>5</sup> threatens the stability and viability of the regional economy.

There are opportunities in this transformation of the economy, ones which help us to live good lives that do not cost the earth. To address the challenges ahead will require us to pause and consider: What is the future that we want? And what do we place value on as a society?

## 2.2 Sustainable Development

The need for a 'fairer' sharing of planetary resources has been recognised in International and UK policy in the concept of sustainable development. The UN defines sustainable development as *meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs*.<sup>6</sup>

Respecting future generations' conditions for life is not an aim generally questioned. However, there are disagreements as to how this is to be achieved, and the extent to which those conditions are threatened. The consensus position is, however, that unless we substantially reduce the amount of greenhouse gases we emit as a planet and indeed as a nation we will have entirely failed to meet that aim.

The UK Sustainable Development Strategy<sup>7</sup> has identified five guiding principles: living within environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly. These are mutually reinforcing and need to be taken together to form the framework against which sustainable development can be judged.

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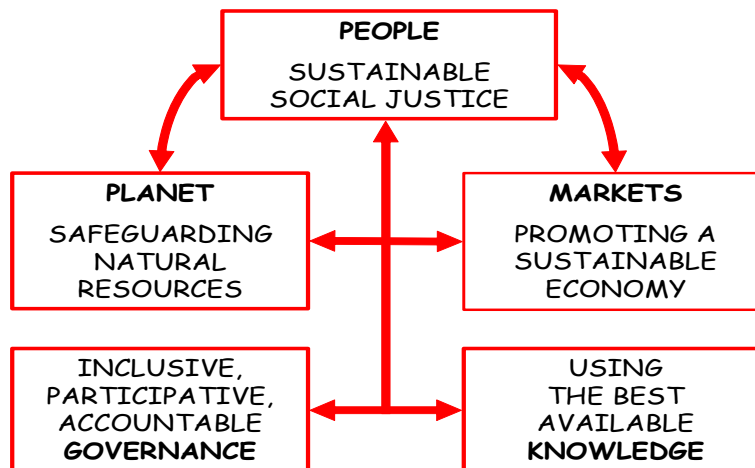
<sup>5</sup> The 'Hubbert Peak' theory describes an extraction and depletion model of oil and other fossil fuels as being one of peak, levelling off and then rapid decline over time. The actual year of peak will not be known until it has passed, however this peak is estimated currently to be within 10-20 years

<sup>6</sup> UN (1987)

<sup>7</sup> HM Treasury (2008)

Coote & Franklin (2009) have built upon this work to identify an overarching social policy goal to guide strategic thinking and planning - described as Green Well Fair. Green Well Fair, defined as *the fair and equitable distribution of social, environmental and economic resources between people, countries and generations*, is rooted in an understanding of environmental limits, promotion of well-being and equality.

Figure 3: Green Well Fair<sup>8</sup>



The elements of Green Well Fair are summarised in Figure 3, and in applying them to strategy and planning they can be interpreted as:

- **People:** sustainable social justice requires a preventative approach – working together to prevent needs arising, narrowing inequalities and ensuring inter-generational equity. This requires the fair distribution of power, resources and opportunities to promote, as far as possible, equal life chances and well-being for all. A high degree of social solidarity will be essential to achieving rapid environmental transformation.
- **Planet:** safeguarding natural resources requires living within the biosphere's limits, which is most clearly articulated within the One planet living approach<sup>9</sup> to development. This will require a low-carbon approach that focuses effort on ensuring that local enterprise is developed, shaped and driven to reduce carbon emissions equitably across a locality.
- **Markets:** markets should be fostered and regulated so that the planet's resources are used effectively to enhance rather than undermine the well-being of people. Promoting a sustainable economy requires a low-growth approach

<sup>8</sup> Coot & Franklin (2009)

<sup>9</sup> Appendix 2 details the One Planet living Principles BioRegional is applying in their development in the UK and internationally. This approach was developed by BioRegional in association with WWF.

- and longer-term investment focused on low-carbon, and equitably shared returns.
- **Governance:** inclusive, participative, accountable governance means ensuring that everyone is actively involved and co-produces their local well-being. Enabling them to define and realise the lives they wish to live.
  - **Knowledge:** policies should be built upon robust evidence, drawing on, in addition to sound science, the wisdom of lived experience, and the attitudes and values of people more generally. This is a purposely broader definition than in the UK sustainable development principles which promotes sound science as the basis of knowledge.

The concept of Green Well Fair makes an explicit link between sustainability and well-being, not only as a concern for the future, but also as a concern for how are our needs being met now. So in addition to questions of using less, we need to understand if we are living better – how is our quality of life affected?

### 2.3 Understanding well-being

Although well-being, or quality of life, is increasingly referred to in government strategies and objectives (see Box 1), it is often left undefined leaving it unclear as to how it can meaningfully be applied in strategies.

Well-being as an individual's subjective experience of their life. At **nef** we define an individual's well-being as a *'dynamic process, emerging ... through the interaction between their circumstances, activities, and psychological resources'*.<sup>10</sup> *'Aside from feeling 'good', it also incorporates a sense of individual vitality, opportunities to undertake meaningful, engaging activities which confer feelings of competence and autonomy [and] is also about feelings of relatedness to other people'*.<sup>11</sup>

In a report for the Foresight Commission on Mental Capital<sup>12</sup> and Well-Being, **nef** detailed a dynamic model of well-being which highlighted the connection between positive feelings, good functioning, psychological resources and the circumstances of individuals. That is, it identifies the reinforcing feedback loops between these elements (see Figure 4).

This dynamic model is built upon decades of well-being research, and identifies several aspects of life that are universally important.<sup>13,14</sup> As far back as 1976, it has been documented in the public health literature that feelings of autonomy and self-competence are important for the development of healthier behaviours.<sup>15,16</sup> Less well known are the findings of positive psychology researchers such as Barbara

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<sup>10</sup> Michaelson J *et al* (2009) pg. 9

<sup>11</sup> Abdallah S *et al* (2009) pg. 10

<sup>12</sup> Thompson S and Marks N (2008)

<sup>13</sup> Deci E and Ryan R (2000).

<sup>14</sup> Grouzet F, *et al* (2005).

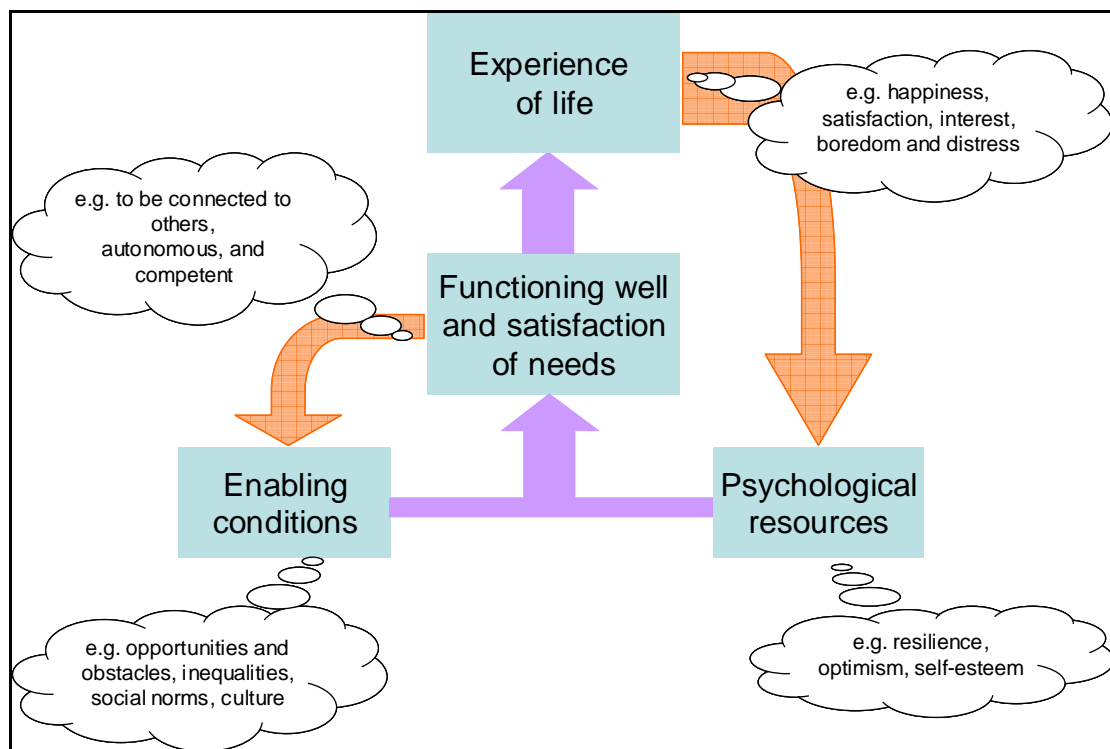
<sup>15</sup> Langer E J and Rodin J (1976)

<sup>16</sup> Abdallah S *et al* (2008)

Frederickson, that show that positive emotions help people build their psychological resources and think more creatively.<sup>17</sup> In other words, fostering well-being can serve as a driver to achieving other outcomes, in addition to being an end in itself.

Developing policy and strategy through a well-being lens requires an understanding of how these positive experiences depend on external circumstances, and working to shape those circumstances to ensure positive impacts. For example, how can our working lives be shaped so that all people are able to enjoy meaningful and engaging activities, either in the workplace or elsewhere? But it also means recognising the positive and reinforcing feedback loops that can emerge from high well-being.

**Figure 4: A dynamic model of well-being**



**Box 1. Well-being in UK policy**

References to well-being can increasingly be found in government strategies and documents:

- The UK Local Government Act of 2000 gives local authorities the power to promote social, economic and environmental well-being in their areas.
- *Every Child Matters*, the national framework for co-ordinating the provision of children’s services places children’s well-being at its heart.
- The UK’s Sustainable Development Strategy *Securing the Future* places well-being at its heart, within the notion of a ‘strong, healthy and just society’ In 2007 Defra started to collect data on life satisfaction and other subjective measures of well-being as part of its sustainable development indicator set.
- The 2007 Sub-National Review declares that “*The purpose of local government is to take responsibility for the well-being of an area and the people who live there*”
- HM Treasury has two Departmental Strategic Objectives for 2008-2011, one of which

### 3. The opportunity of the single Integrated Regional Strategy

*The single Integrated Regional Strategy (IRS) represents an opportunity to take the longer-term view to guide the overall structural transformation of the regional economy towards a more resilient and sustainable future. We argue the success of the IRS should be judged against its ability to support a fair and more socially just society which is living within the limits of the biosphere.*

The financial crisis and economic recession has focused our attention on some of the failings of our current economic system. At **nef** we argue these failings are symptomatic of the fundamentally flawed economic model we have been pursuing. A model based on increasing levels of consumption per capita, built on the implausible belief that economic growth can continue in a world of finite resources, and our tolerance in society of widening levels of social inequality nationally and globally.

Combating climate change regionally and locally will require both adaptation and resilience characteristics to be designed into the structure of the economy. Adaptation to climate change, or resource scarcity can be thought of as the long-term increase in the capacity to cope with changes in circumstances (e.g. unforeseen or periodic hazardous events). Adaptation at the regional and local level will require the 'climate-proofing' of infrastructure, investments and activities.

Resilience can broadly be defined as the ability of a system (social, economic or ecological) to cope with external shocks as they arise. In measuring a system's resilience, the Tyndall Centre for Climate Change Research refers to indicators that demonstrate the system's '*ability to (a) absorb shocks and retain its basic function, (b) self organize (social institutions and networks), and (c) innovate and learn in face of disturbances.*'<sup>18</sup> Supporting the development of resilient qualities in economic and social

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<sup>18</sup> Adger *et al*, (2004).

systems is particularly important when there are high levels of uncertainty regarding the direct and indirect impacts of climate change and resource scarcity.

By combining spatial planning with economic development the Integrated Regional Strategy (IRS) represents an important strategic opportunity to design a different future, one that can draw the public, private, third sector and civil society together in a common and just purpose.

### 3.1 Room for Manoeuvre

In 2007 the government conducted a Sub-National Review of Economic Development (SNR) which, amongst other things, led to abolishing the Regional Assemblies, and transferred the requirement for the development of the Regional Spatial Strategies<sup>19</sup> to the Regional Development Agencies. The RDAs are in turn charged with combining the Regional Spatial Strategies, and the Regional Economic Strategy into a single Integrated Regional Strategy in conjunction with partners, particularly the Local Authority Leaders' Boards.

The main purpose of the Integrated Regional Strategy (IRS) is recognised as being to *set out the economic, social and environmental objectives for each region*<sup>20</sup>, and act as the overarching strategic framework for the region. The expected outcome from the IRS is named as being 'Sustainable Economic Growth' defined as *economic growth that can be sustained and is within environmental limits but also enhances the environment and social welfare, and avoids greater extremes in future economic cycles*.

In addition, the IRS is charged with 'demonstrating a regard' for the underlying principles of sustainable development, which include the five principles of sustainable development detailed previously (section 2.2). As well as mitigating and adapting to climate change in seeking to achieve the growth objective.

The Joint Regional Board, which has been formed to oversee the development and delivery of the IRS in Yorkshire and Humber,<sup>21</sup> has indicated an intention to build the IRS on local, and what is termed *functional sub-regional* priorities<sup>22</sup>. This opens up the opportunity for locally relevant priorities, projects and activities to be reflected in the IRS. But in addition, requires a level of co-ordination and debate to ensure that short-term interventions at the sub-regional level, for example to deal with the consequences of the

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<sup>19</sup> The Department of Communities and Local Government describes the objective of the Regional Spatial Strategy (RSS) as contributing to the achievement of sustainable development. The RSS incorporates a Regional Transport Strategy and informs the preparation of Local Development Documents Local Transport Plans and regional and sub-regional strategies and programmes that have a bearing on land use activities.  
<http://www.communities.gov.uk/planningandbuilding/planning/regionallocal/regionalsspatialstrategies/regionalsspatialstrategies2/>

<sup>20</sup> Section 6.89 of Sub-National Review

<sup>21</sup> The Joint Regional Board has been formed from members of the Local Government Yorkshire and Humber Leaders Board, and members of the RDA Board (Yorkshire Forward). Information about the structure of this Board and associated discussion papers can be found at <http://www.lgyh.gov.uk/About-Us/Regional-Structures/Joint-Regional-Board/>

<sup>22</sup> The functional sub-regions are identified as the City regions plus York and North Yorkshire.

recession, are delivered in a way to support a longer-term need for the transformation of the regional economy.

The expected coverage of the IRS<sup>23</sup> includes integrating:

- Economic growth and productivity
- Employment and skills
- Regeneration
- Housing
- Transport
- Climate change and energy
- Environmental infrastructure and limits (including waste, water, minerals, green space).

With optional issues highlighted which relate to quality of life detailed as including: health and well-being, crime and safety, cohesion, equality and diversity, biodiversity, education, communities and participation, and culture, media and sport.

That there is scope to debate and interpret these goals has been recognised in the discussions of the IRS to date at the Joint Regional Board. And it is this room for interpretation of the scope, and how the sustainable development principles will be practically applied within the strategy, which we believe opens up opportunities for the re-engineering of the regional economy. This need for re-engineering will have to be addressed if the IRS is to rise to the challenge of averting further greater extremes in future economic cycles.

### 3.2 A mission impossible?<sup>24</sup>

There has been a subtle, yet significant change in the discourse around the role of the RDAs. Prior to the SNR, the phrase 'economic development' dominated. The Regional Development Agencies (RDAs) which came into being in 1999, following the Regional Development Agencies Act of 1998, were charged with five purposes in their region:

- To further economic development and regeneration
- To promote business efficiency, investment and competitiveness
- To promote employment
- To enhance development and application of skills relevant to employment
- To contribute to sustainable development

With their key priorities being laid out in their Regional Economic Strategies.

The SNR heralded a move to shift RDA priorities to economic growth:

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<sup>23</sup> Joint Regional Board Discussion papers 27 April 2009.

<sup>24</sup> Further reading related to this can be found in the recent Sustainable Development Commission report: Jackson T (2009) *Prosperity without Growth? – The transition to a sustainable economy* (London: SDC), Chapter 5.

“The Government will significantly reform the RDAs’ objectives, replacing their current tasking framework with a simplified outcome and growth-focused framework defined by a single over-arching growth objective.” (6.91)

“The single over-arching growth objective will be aimed at increasing regional GVA per head” (6.92)

Such a shift is not inconsequential. Economic development implies any change which improves the economic conditions of a region. These could include supporting local businesses, reducing inequalities, and increasing innovation. Development is, at least in part, a qualitative concept. Economic growth, on the other hand, is purely *quantitative*, measured as an increase in average Gross Value Added (GVA) per capita.<sup>25</sup>

The environment places natural limits to any growth-focused model. The economy does not live apart, but rather inside the limits of our planetary resources (this relationship is represented in Figure 5). However, this connection was not necessarily understood in previous economic models, but has been subsequently explored in the discipline of ecological economics. When put in its proper place within the environment it is clear that the economy cannot grow endlessly, as no economic activity is entirely unconnected from the physical world<sup>26</sup>.

Businesses use natural resources to produce things, they also produce outputs such as pollution. This is true for service industries as well as manufacturing industries – a hotel, for example, is built of materials and contains objects that have been manufactured and will be disposed of, not to mention the energy required to heat and power the hotel. The true impacts of any industry include the ‘embedded costs’ of production and pollution. A particular industry may not have a factory chimney, but it is likely it depends on the existence of one elsewhere in the country, or in the world.

At best economic growth can be considered as a *possible* strategy to achieving high, sustainable and equitable well-being. Although our past experience of it as a strategy has been that it has failed to protect our environment, and failed to address the persistent levels of social inequality in the UK. Despite having the fifth largest economy in the world, the UK has been unable to eradicate its problems of poverty and deprivation. It would seem that striving to grow the UK economy further cannot be relied on as a strategy to address social justice.

How the IRS practically balances the competing aims of growth with environmental and social considerations lies at the heart of the debate in developing an effective regional strategy. If this balance is not understood in very practical terms, the IRS will be in danger of trying to manage a paradox.

We argue that if sustainable growth is to be used in any meaningful way, it can only apply in relation to those aspects of the economy which can demonstrate low carbon impact. That is, the goal of the regional economy should not be one of growth *per se*, but rather growth of the adaptive and resilient characteristics which together act to reduce the environmental impact of the regional economy as a whole, and support higher levels of well-being. This requires identification at the regional level of industries

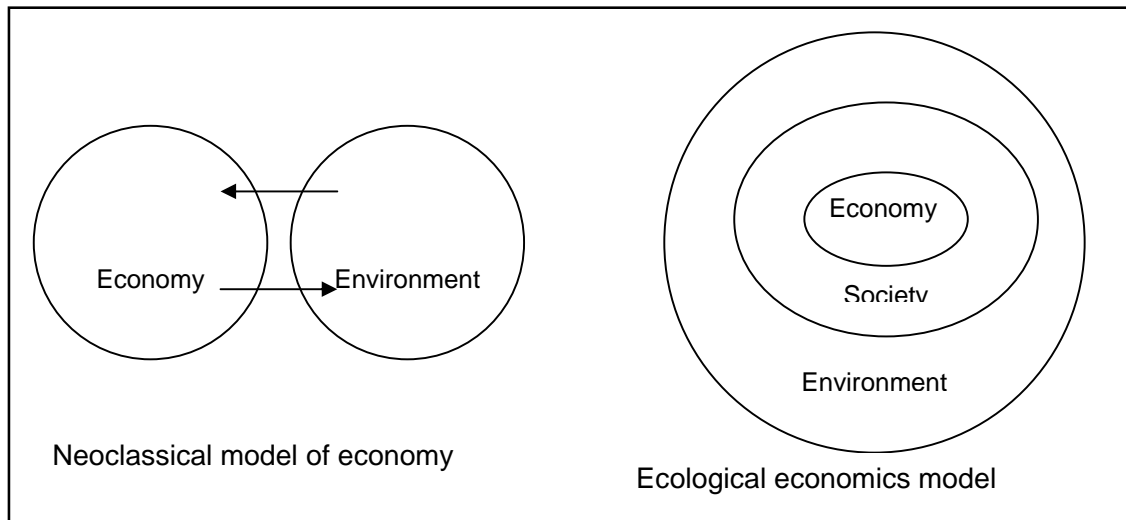
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<sup>25</sup> GVA is a measure of the contribution to the economy of each individual producer, industry, region or sector.

<sup>26</sup> See writings of Professor Herman Daly

that support a reduction in environmental impact, and gearing support for the development of those industries at the regional and local level.

**Figure 5. Models of the economy's relationship with the environment**



The re-balancing of our use of resources to ensure a green, well and fair region also requires an understanding of what constitutes Yorkshire and Humber's fair share of environmental resources; the interdependence of localities, regions and nation; and how goods and services can be delivered differently. Moving environmentally damaging industries to other parts of the world, whilst demanding the goods and services from them, will not ultimately address a region's need to adapt to climate change. As such, focusing on developing a knowledge-based economy, or service economy will not necessarily increase either the adaptive capacity of an economy, or its level of resilience.

## 4. Towards a low carbon, high well-being future

*In developing the scope of the IRS practical questions need to be addressed such as: What sort of economy should be planned for to adapt to climate change? How can resilient characteristics be nurtured at the local and regional levels? In response, we are proposing that the transformation of the regional economy should be towards a low carbon, high well being future.*

### 4.1 A low carbon economy, a new economic opportunity

The credit crunch and current economic recession have focused policy attention on the economic gains which can be achieved through cutting carbon emissions. The *Green New Deal* report, published by **nef** in 2008 on behalf of the Green New Deal Group, calls for a 'joined-up' set of policies to tackle the 'triple crunch of climate change, the recession and rising fossil fuel-based energy costs together. A full Green New Deal

demands a comprehensive array of new checks and balances on the financial services sector, and a range of new economic instruments. But, at its heart, it sets out the need for an environmental stimulus package that is designed to begin the rapid environmental transformation of the UK economy, whilst simultaneously insulating against the worst impacts of the recession, creating countless green collar jobs, and laying the foundations for a truly sustainable recovery. In March 2009 the Prime Minister's speech to the Low Carbon Industrial Strategy Summit also advocated a Green New Deal<sup>27</sup> indicating that 400,000 new environmental jobs will be created over the next eight years with a total of 1.3 million people employed in these sectors by 2017. The IRS could be an opportunity to develop a regional green new deal stimulus package.

Socially excluded groups, in low-income households in particular spend a greater proportion of their income on energy and food. This is exacerbated by volatile global commodity prices, energy and food bills. Therefore policies which create the enabling conditions for a reduction in absolute consumption (e.g. energy efficiency) or alternative systems of service provision that buffer against price volatility (e.g. local food and renewable energy systems) provide an important social justice function.

In response to the challenge of climate change, the UK Government has set a carbon reduction target of 34 per cent below 1990 levels by 2020, increasing to an 80 per cent reduction by 2050. The most significant carbon emission reductions to date in the UK were 'largely fortuitous'. They were a consequence, rather than planned intention of the UK's 'dash for gas', the rapid shift in electricity generation from coal to gas in the early 1990s, coupled with the shift of manufacturing production from the UK to nations such as China and India. Overall energy consumption in the UK actually rose by 15 per cent between 1990 and 2005, and there have been no substantial emission reductions achieved since the mid-1990s.

Supporting the development of the adaptive capacity of the regional economy will require the development of systematic interventions in two key areas:

- (i) **Re-engineer the regional supply infrastructure to include:** transport systems, waste management, energy and food systems, so that they are less energy and resource intensive;
- (ii) **Re-engineer the regional physical infrastructure,** particularly focussing on interventions to reduce the absolute level of consumption, such as retrofitting the existing housing stock to reduce energy demand, and increasing the recycled content of new housing and industrial developments.

The UK will only be able to meet its current carbon reduction targets by radically re-engineering the UK's ageing energy infrastructure to support low-carbon alternatives; and upgrading the inefficient building stock, which accounts for over 50 per cent of the UK's total carbon emissions. Both of these changes are most effectively delivered at the local level on an area basis, but this would need to be co-ordinated at the regional level to ensure that the scale of change needed is achieved across sub-regional areas.

In the domestic sector, over 27 per cent of the UK's carbon dioxide (CO<sub>2</sub>) emissions come from energy use in the home. It is estimated that four fifths of UK homes are currently not fully insulated. The poor energy efficiency of the UK housing stock, and the

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<sup>27</sup> Number 10 (2009) *Speech to the Low Carbon Industrial Summit*, Friday 6 March 2009.

low level of renewable energy generation mean that both a programme of energy conservation through retrofitting the current housing stock, and the development of a decentralised renewable energy system are needed if the UK is to meet its ambitious climate change and fuel poverty targets. These interventions also have the potential to reduce energy bills, and reduce the incidence of fuel poverty and social exclusion more generally. An appropriate mix of interventions should be supported and applied systematically in each sub-regional area in order to deliver the greatest possible public benefit in terms of the social, economic and environmental outcomes delivered over the longer term.

The effectiveness of the interventions should be judged by how well they deliver Green Well Fair. Example assessment criteria which could be applied to local energy projects are detailed in Box 2.

**Box 2: Example criteria for assessing Green Well Fair benefits of decarbonising energy projects.**

Assessment Criteria	
Carbon reduction	<ul style="list-style-type: none"> <li>▪ Lowering resource usage.</li> <li>▪ Increasing resource efficiency.</li> </ul>
Equality	<ul style="list-style-type: none"> <li>▪ Reducing fuel poverty and other energy-related inequalities.</li> <li>▪ Investing in disadvantaged areas and creating more affordable homes.</li> <li>▪ Increasing access to land.</li> <li>▪ Job and skills creation in disadvantaged areas and for those excluded from the labour market.</li> </ul>
Community empowerment	<ul style="list-style-type: none"> <li>▪ Contribution to environmental and economic literacy of individuals, businesses and the wider community.</li> <li>▪ Members of the project (all those directly involved) participate in decision-making and have a stake in the benefits.</li> <li>▪ Community involvement in governance and community benefit in stakeholding</li> <li>▪ Feedback mechanisms on energy and resource use and wider impact to support decision-making.</li> </ul>
Resilience and security	<ul style="list-style-type: none"> <li>▪ Re-localising energy services and reducing dependence on external supply.</li> <li>▪ Creating greater diversity in local production and consumption.</li> <li>▪ Building social capital and community networks.</li> </ul>
Viability	<ul style="list-style-type: none"> <li>▪ Potential for raising investment capital and sufficient social return on investment.</li> <li>▪ Ability to meet local demand.</li> </ul>

At the Regional level actions which could support adaptation to climate change include:

- **Low energy plan:** Development of a regional low energy plan to include transport, food systems and energy generation and use. The plan should in addition, establish a programme of activities to support the emergence of innovative new industries within the region, and the development of the renewable energy sector in particular. The UK does not currently have a strong manufacturing base for renewable/low carbon technologies, and the

only wind turbine manufacturing plant in the UK on the Isle of Wight recently closed. This could be seen as a strategic opportunity to guide and support innovation, business creation, training and skills development in this sector regionally.

- **Energy generation:** Development of a new regional grid system, ranging from large-scale wind, wave and tidal electricity to decentralised energy systems that increase domestic and local energy production.

Pooled public sector energy procurement budgets could be used to create a new market for renewable energy and encourage development of this new sector.

Public sector buildings including council offices, NHS buildings and schools should lead the way in sourcing their energy from renewable sources through fitting solar photovoltaics, wind turbines and the use of Combined Heat and Power systems.

Provide innovation support for businesses and Universities to develop appropriate technologies or practical application.

- **Energy conservation:** The Low Carbon Zone proposal developed by Boardman (2008) calls for the development of Energy Service Companies (ESCOs) to provide vehicles for systematic local delivery of energy efficiency services, and for meeting energy reduction across areas. A Low Carbon Zone established in the local authority would then adopt a block-by-block approach to housing retrofit programmes which is the most efficient way to deliver these programmes. See Box 3 which details the experience of Kirklees Council.
- **Housing:** the Government has determined that all new homes will be 'zero carbon' by 2016 and domestic buildings will be zero carbon from 2019.<sup>28</sup> This requirement should be applied to all developments now, as delaying such requirements perpetuates the consumer *lock-ins* to over-consumption presently faced. Developers should in addition be encouraged to apply the One Planet Living principles to new developments<sup>29</sup>
- **Employment and skills:** Developing a regional employment and skills programme to support the new green industries. To reduce carbon dramatically will require expertise ranging from energy analysis, design and production of hi-tech renewable alternatives, large-scale engineering projects such as combined heat and power, and offshore wind at the high skilled end; through to medium and low skilled work making every building energy tight, and fitting more efficient energy systems in homes, offices and factories.<sup>30</sup>
- **Transport:** To reduce carbon emissions from transport will require a reduction in overall traffic levels and a shifting to low carbon vehicles. Some of the benefits of reducing car transport are explored briefly in Box 4, and possible interventions are detailed in Box 5.

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<sup>28</sup> HM Government (2008b).

<sup>29</sup> Principles are detailed in Appendix 2.

<sup>30</sup> A Green New Deal, 2008.

### Box 3: Kirklees Warm Zone

Kirklees Council offers free cavity-wall and loft insulation to all households in its area, regardless of their financial means. By April 2009, 67 per cent of households had been visited (115,000) and more than 25,000 received insulation measures. 40,000 households will benefit from a free insulation offer, saving each one £300 each year off their fuel bills.

This scheme has avoided emissions of about 28,000 tonnes of carbon dioxide per year so far. This will reach about 40,000 tonnes a year by the end of the project. It has created 103 full-time equivalent jobs and developed the skills missing locally to tackle energy efficiency.<sup>31</sup>

The key features are as follows:

- Area-based delivery, using contact with community and voluntary groups
- Intensive marketing campaign and letters to households
- Trained assessors make door-to-door visits to check insulation status, and also refer people for other services
- The contractor surveys homes and installs mineral-fibre insulation in lofts and cavity walls

At the Regional level actions which could support resilience to climate change include:

- **Regeneration:** Developing programmes which actively seek to increase the local multiplier effect through money being spent and re-spent in the local economy particular in areas experiencing relative economic disadvantage. (i.e supporting local supply chains in public procurement and programme delivery- see Box 6)  
  
Supporting resources being used and re-used (for example through the development of closed loop production systems which recycle green waste as energy sources).<sup>32</sup>
- **Responsible enterprise support:** Provide support for business start-ups or existing businesses to diversifying new product areas and services which support the reduction of carbon for households or businesses.

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<sup>31</sup> <http://showcase.hcaacademy.co.uk/case-study/kirklees-council-warm-zone.html>

<sup>32</sup> An example process can be found at <http://www.bioregional.com/what-we-do/our-work/bioregional-minimills/>

#### Box 4. Benefits of reducing car use

**Future-proofing** – Our motorised-dominated transport system accounts for almost half of the world's use of oil. Reducing Yorkshire & Humber's dependence on it represents prudent protection against the inevitable continuing increase in oil prices as oil reserves deplete.

**Long-term environmental damage** – The domestic transport sector accounts for approximately 23 per cent of carbon dioxide emissions.

**Inactivity** – A Department of Health report found that the cost of inactivity to the NHS is around £8.3 billion (£5.4 billion from sickness absence, £1 billion from premature mortality, £1.7 billion in direct health costs). Yet, if 10 per cent of adults increased their level of physical activity by adopting active transport modes, or even just walking to the bus stop, this could save at least 6000 lives per year and the NHS £500 million.

**Vehicle footprints** – Tail-pipe emissions are only part of a motor vehicle's contribution to climate change. Over the vehicle's lifecycle, emissions are generated during extraction of raw materials and movement, production, and disposal. These emissions are estimated to add 18–43 per cent to tail-pipe emissions.<sup>33</sup> Car production uses nearly half the world's annual output of rubber, 25 per cent of its glass and 15 per cent of its steel.

**Road accidents** – 34 per cent of child deaths due to injury in the EU are caused by road crashes. While the distribution of these injuries varies greatly by country (and the UK has a much lower level of road deaths), child pedestrians in the UK are still at high risk, with twice the rate of injury seen in France or Germany.

**Community severance** – Whilst the development of a car-based transport system improves access for those with cars, it can actually isolate those without, as other forms of transport become marginalised. In the long term, sprawling settlements can reduce social capital and increase social segregation, as people desert public spaces and isolate themselves in private vehicles<sup>34</sup>. And ecological studies show lower levels of reported self-health in people living in sprawled cities.<sup>35</sup>

**Inequality** – One UK study found that communities with access to the fewest cars experience the highest levels of air pollution.<sup>36</sup> In addition, traffic noise is a major source of noise pollution and has been linked to sleep disturbance and increased cardiovascular risk.<sup>37</sup>

**Built-up land** – Areas of tarmac dedicated to cars take up a huge proportion of our public space. Greater pedestrianisation can have very positive effects on community well-being. For example, the pedestrianisation of part of Trafalgar Square revitalised the location, increased pedestrian flow, and turned public perception of it into a destination rather than a route.<sup>38</sup>

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<sup>33</sup> US Environmental Protection Agency (2006)

<sup>34</sup> Frumkin *et al* (2004)

<sup>35</sup> Strum & Cohen (2004)

<sup>36</sup> Mitchell & Dorling (2003)

<sup>37</sup> Watkiss *et al* (2000)

<sup>38</sup> DfT (2004)

#### Box 5: Possible car reducing interventions

Many interventions hold promise for reducing car use or the impacts of car use. Most aim at achieving a modal shift towards public and active transport. Some, however, should have the effect of reducing the demand for transport of any form. A few possible interventions are listed below:

- **Vehicle speed restrictions** in built-up areas. For example, Hull has applied a 20mph speed limit in residential areas covering 26 per cent of the city. Limits are self-enforced through structural transformation of the roads. The restrictions dramatically reduced the number of serious injuries from road accidents and led to a £35 million saving in terms of physical damage from accidents. Applied consistently, speed restrictions are likely to reduce car use and make other transport modes, such as cycling and walking, more desirable.
- **Vehicle speed restrictions on motorways.** Fuel efficiency significantly reduces at speeds above around 50mph. Sustainable transport experts suggest a 50mph limit on long-distance roads could reduce emissions by about 30 per cent. Such limits would also encourage people to switch to faster travel options such as the train.
- **Road charging in city centres.** A scheme in Durham has reduced traffic flows by 85 per cent, and increased feelings of community safety in the city centre.
- **Promoting bicycle use.** There are a range of interventions that can support increasing bicycle use including road planning, cyclist-specific traffic lights, personal travel planning, information provision, as well as working with businesses to incentivise commuting by bicycle. It is also important to highlight the health and psychological well-being benefits of the physical activity involved in cycling. Research shows that whilst drivers perceive cycling to be inconvenient and stressful, cyclists themselves rate cycling to be just as convenient and far more relaxing than drivers rate driving to be.<sup>39</sup> Indeed assessed on 11 criteria identified as important by commuters, cycling was rated higher than driving on all bar two.
- **Home-working.** A key benefit in this context would be in the reduction in the *need* to commute. This is specifically relevant to consideration for rural areas.
- **Shared transport.** Where car transport is required, specifically when this is due to poor provision of public transport systems in rural areas - there should be encouragement of car-sharing schemes, and community transport initiatives.
- **Spatial planning.** In the long-term, regions will need to think about spatial planning as a tool to tackle over-reliance on private transport to address how towns can be developed to reduce the need for long-distance travel for which active or public transport may be inadequate.
- **Shared streets example.** The underlying concept of the shared street system is one of integration, with an emphasis on the community and the residential user. Pedestrians, children at play, bicyclists, parked cars, and moving cars all share the same street space. Even though it seems these uses conflict with one another, the physical design is such that drivers are placed in a position which requires them to exercise greater caution, and results in lower accident levels.<sup>40</sup>

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<sup>39</sup> Anable & Gatersleben (2005)

<sup>40</sup> Reference: [www.architectureweek.com/2004/0505/building\\_1-2.html](http://www.architectureweek.com/2004/0505/building_1-2.html)

- **Civil society:** Strong social institutions with an ability to self-organise are a indicator of a systems ability to cope with external shocks. Regional support for engagement in debate and developing broader understanding and literacy (economic and environmental) which can then be used to mobilise action thorough civil society actors, will be important to support local level resilience and well-being.
- **Community-level action:** Mobilising financial support for community area-based interventions focused on transforming local economies, and supporting behaviour change.
- **Supporting development of the core economy and co-production.** These are explained as key policy interventions sections 4.2 and 4.3.

#### **Box 6: Achieving Local multipliers**

A University of Durham study in 2008 found a significant local economic multiplier effect from programmes such as the Energy Efficiency Commitment, Warm Front and Warm Zones programmes. In 2005-2006, £13.72 million was invested through these programmes in energy efficiency measures in the North East of England which resulted in the following economic impacts:

£11.26 million of gross value added

369 full time equivalent jobs created regionally – 246 direct jobs and 120 additional jobs

A regional return on investment of an additional 82 pence for every £1 invested

## **4.2 A Green Well Fair State**

*How shall we live together and look after each other in the future? For the past 60 years in the UK, the welfare state has relied on steady economic growth to provide the tax revenues required to fund services to meet our needs. In the absence of this source of funding, we argue we will have to look to the core economy and different ways to deliver services using a co-production approach.*

The IRS will depend upon a robust welfare system to deal with the social demands of the region, particularly in terms of healthcare, children and the elderly. Specifically in terms of:

- Improving public health and reducing obesity
- Improving education attainment and skills
- Reducing inequality and embracing diversity

Health and social care, education, child care, housing and all public services depend only partly on the market economy, where money is exchanged for goods and services.

They also depend, crucially, on the resources of planet and people. In the UK the biggest providers of health and social care are not doctors or social service professionals, they are mothers and carers who provide over £87bn worth of unpaid care a year.<sup>41</sup>

The core economy<sup>42</sup> is made up of human resources embedded in the everyday lives of every individual (time, wisdom, experience, energy, knowledge, skills) and in the relationships between them (love, empathy, watchfulness, care, reciprocity, teaching and learning). They are 'core' because they are central and essential to society. They underpin the market economy, by raising children, caring for people who are ill, frail and disabled, feeding families, maintaining households, and building and sustaining intimacies, friendships, social networks and civil society. These are largely un-commodified functions, un-priced and unpaid, routinely ignored and often exploited.

Whilst the core economy is rooted in families and households, it extends well beyond the domestic sphere, through extended families, wider social networks, neighbourhoods and communities of interest and place. It includes myriad un-priced and unpaid activities: friends looking out for one another, grandparents sharing childcare and helping out, parents being school governors, volunteers cleaning up parks or visiting people who are housebound, neighbours doing each others' shopping or exchanging gossip and advice. It provides the essential social functions that keep people connected with one another. Some activities are formally organised – for example through national charities or local authorities. Most arise organically from close social relationships in civil society.

Like the low carbon economy, the core economy is an economy we should seek to actively grow and support within the IRS, specifically because it gives shape to the social and economic life supporting an individual's quality of life. And like the natural economy, it cannot be disconnected from economic activity, it underpins it. The core economy impacts on our well-being at many levels, enhancing the physical and social conditions around us, directly affecting our abilities to function well and, in the case of the strongest links, building our psychological resources during our childhood and indeed throughout our lives (see Figure 6).

Human resources and the qualities of relationships need to be brought into the centre of policy-making, strengthened and enabled to flourish. The process by which this is achieved will affect the quality of people's daily lives, the power and resources they command, relationships between them, their future prospects and their physical and mental well-being. Such changes can exacerbate social divisions and inequalities, or help to promote social justice.

### 4.3 Co-production as an operating principle

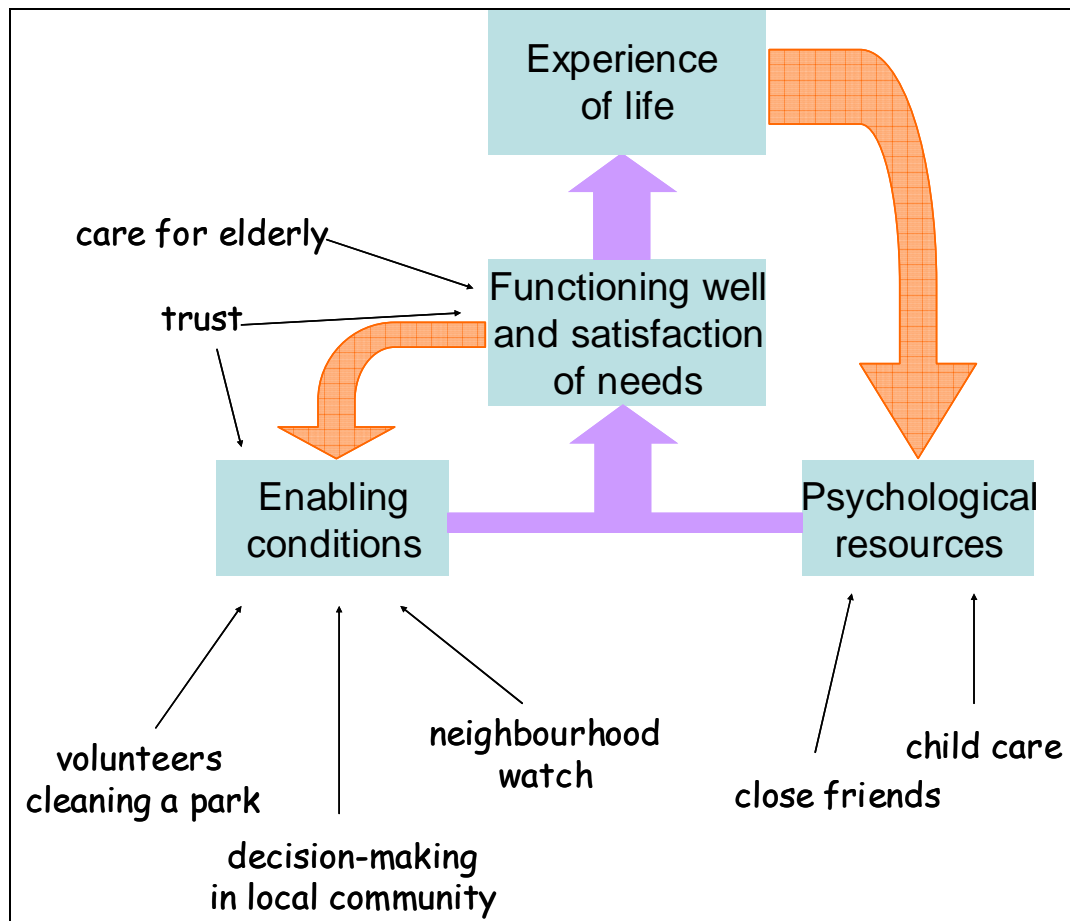
Co-production is a policy mechanism which shifts the balance of power, responsibility and resources from professionals to individuals, by involving people in the design and delivery of their own services.

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<sup>41</sup> This is currently an under-researched area, and we believe the market value estimates currently significantly underestimate the worth to society of the core economy.

<sup>42</sup> A term first used by Neva Goodwin, see Goodwin, N *et al* (2003) *Microeconomics in context* Houghton Mifflin Company.

Figure 6. Impacts of the core economy on well-being



Co-production goes beyond the idea of ‘citizen engagement’ or ‘service user involvement’ to that of fostering the principle of equal partnership. It changes the dynamic between the public and public service workers and focuses on the individual as part of the process and solution. Co-production is a mechanism which ensures governance to be inclusive, participative and accountable in a very practical way, whilst mobilising lived experience as part of the knowledge base to find an appropriate solution. Co-production is central to growing the core economy, and the guiding principles include:

- **Recognising that people are assets:** People are the real wealth in any community. Every individual can contribute to his or her own well-being and that of the local community. Co-production engages previously unrecognised and under-used resources in delivering services. As a way of working, co-production recognises people as assets, not just problems, acknowledging that they have much to contribute, and in addition it transfers power from providers to users. Responsibility is shared – both for deciding what needs to be done, and for subsequent action.

- **Valuing work differently:** activities such as bringing up children, caring for people who are frail or marginalised, keeping communities safe and fighting social injustice have to be recognised, rewarded and counted as valuable work that contributes to a healthy society.
- **Building reciprocity and mutual exchange:** giving and receiving are the simplest and most fundamental ways of building trust between people. They are the basic building blocks for positive social relationships and healthy communities.
- **Strengthening and extending social networks:** belonging to a mutually supportive and secure social network brings more meaning to people's lives and new opportunities to rebuild trust in one another. Social relationships underpin good physical and mental health.

Co-production is, according to Dame Elizabeth Hoodless at Community service Volunteers, about 'broadening and deepening' public services so that they are no longer the preserve of professionals or commissioners, but a shared responsibility, both building and using a multi-faceted network of mutual support.

When people feel valued, have more control over their lives and stronger connections with each other, they are more able to shape their circumstances for the better, and take the initiative in co-producing better solutions. As noted earlier, positive functioning leads to positive emotions, which are known to help bolster psychological resilience to enable children and families better cope with difficult circumstances and bounce back from adversity.<sup>43,44,45,46</sup>

At the same time, by working in equal partnership with those they are supposed to serve, public services can dramatically increase their resource base, radically transform the way they operate and achieve better outcomes. This way of growing the core economy can help prevent needs arising, whilst achieving better outcomes. Two examples of co-production in practice are detailed in Boxes 7 and 8.

Embedding co-production in service design and delivery would require:

- 'Service users' expecting to be supported to co-produce their own well-being, rather than having things done to or for them. They may also have to accept that risks are inevitable, public service workers cannot always be blamed when things go wrong, and services cannot be identical everywhere.
- Public service workers learning to share power and knowledge, to treat 'patients' or 'clients' as equals, respecting their wisdom and experience and see themselves more as brokers and facilitators, getting results by building relationships not just deploying technical skills or following set procedures.
- Policy-makers acknowledging the importance of time as well as income in meeting human needs, and understand that, whilst the core economy can be influenced by public policy, it cannot be controlled. Growing it will involve transferring power to people, allowing more risk-taking and local variation,

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<sup>43</sup> Fredrickson B (2001) *op cit*.

<sup>44</sup> Hughes AA, Kendall PC (2008)

<sup>45</sup> Reschly AL *et al*, (2008)

<sup>46</sup> Shannon M, *et al* (2006)

actively promoting better working conditions and equalities, and changing the role of public services.

- A fundamental shift in the role of the state is required, from top-down, professionalised provision, to equal partnership, backed up by measures that counteract disadvantage and embed reciprocity so everyone has a chance to participate on an equal footing.

Key areas for consideration with respect to the IRS include:

- Supporting employment programmes and working conditions which nurture the core economy, enabling people to combine paid work, caring and co-production in ways that are attractive and rewarding. This would include measures to combat inequalities, as well as proper support for people who can not do paid work because of extensive caring responsibilities.
- Channelling and safeguarding resources to support the activities of local voluntary groups and organisations, so they can play a full part in co-producing change at the local level. There should be greater expectation that local centres, open to groups of all kinds. Existing resources, such as providing meeting rooms, internet access, printing facilities, training and capacity building, access to child care and local exchange schemes, are used to help to broker connections and bring people together.

#### **Box 7. Camden Shares: co-production in action for older people**

Demographic changes including increased mobility and an ageing population mean more people are living alone, often without strong local networks of support. Health and social care challenges are increasingly focused on chronic and enduring conditions that require individual and community-based strategies. People and policies increasingly favour people living independently with support provided in community settings.

A shift to focus on individual well-being and preventative approaches coupled with greater personalisation, particularly through the use of individual budgets means people are seeking models of care provision that are different to traditional services. There is also an increasing number of people able to pay for their own care but unable to locate the support that they need.

Camden Shares offers a financially sustainable and affordable approach to supporting independent living. The support is delivered to embody a preventative approach and generate improved individual and social well-being and local economic benefits.

Camden Shares shifts support from traditional deficit-based, dependency creating models that rely primarily on paid professionals to deliver services to 'fill a gap', to an asset-based model where 'members' enlist in a reciprocal scheme that helps them to care for themselves and each other. The model ensures that people are required to act both as service deliverer and service recipient. As such it mobilises the quantity and quality of local human resources that will be required to meet the needs of communities, engaging assets that currently lie untapped.

Camden Shares is a local membership scheme aimed at older people living independently who need supportive interventions to enable them to continue playing an active role in their own lives and within the community. Membership is through a combination of time and money. Everyone within the membership pledges time and

skills each month and also receives back a number of hours of practical help and emotional support from other members. In giving back rather than just receiving, 'members' develop their own skills and confidence, receive recognition and develop new social networks.

Membership also requires a small financial payment – alongside the monthly time payment – which can come from members individual budgets, or from self-funders own savings. The membership model is designed to be financially self-sustaining within three years.

### **Box 8: Glyncoch Youth Time Banking Project**

Glyncoch is a housing estate on the outskirts of Pontypridd in the South Wales Valleys, it has approximately 3,000 residents, many of whom face a range of socio-economic challenges including high unemployment, high levels of child poverty and low educational attainment. The Glyncoch Youth Time Banking Project, is a Welsh Assembly Government initiative, which began in 2005. It works on the principle that for every hour a participant gives to the youth group and the wider community they earn one time credit. If a young person gives five hours to help run a youth environmental day they would earn five time credits. These can be used to go on youth trips and activities and to join in community events. As these are accessed through time credits rather than being given away free, the young people value them more, attendance is higher and behaviour is better. They understand that even though they don't have money they have still have something of value that the youth group and the wider community needs.

The project encourages and works with the skills and talents of the young people involved and their understanding of what their community needs. This has led to a number of initiatives including environmental projects, peer-learning projects (e.g. sexual health sessions), an arson DVD, running youth sessions for the younger youth and supporting other community groups in Glyncoch.

The time banking project also supports young people to develop new skills. It runs 'learn something new nights', where young people use their time credits to learn street dancing, DJ'ing, guitar, cooking, jewellery making and hair and beauty. Older people also come along to teach their skills, such as knitting for example, and in return the young people show them how to text with their mobile phones.

The project supports young people's involvement in all aspects of design, delivery and evaluation of projects. For example, with the support of a youth performance organisation, a number of young people who were talented singers put on two concerts for the community. They were involved in designing the concerts, designing and producing publicity materials and selling tickets. Both concerts were attended by over 200 people, and the young people earned time credits for the time spent putting on the concert.<sup>47</sup>

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<sup>47</sup> Adapted from Stephens 2009.

## 5 Improving ways to measure well-being & environmental impact

*'I perceive that the great part of the miseries of mankind are brought upon them by false estimates they have made of the value of things'* Benjamin Franklin

Ultimately, to be able to assess whether we are achieving high and equitable well-being, we need to measure well-being directly using subjective measurement tools. Combined with appropriate measures of environmental impact, this will allow an assessment of how successful we are in living better, whilst using less. Two in-process developments are shared below:

### *Environmental impact*

Firstly, we need to measure the impacts the region has on the environment. This needs to include local impacts in terms of air and water pollution, and the degradation of the region's natural resources. But it also needs to include global impacts in terms of the region's contribution to climate change, and to the depletion of non-renewable natural resources such as oil and mineral deposits. Importantly, any assessment of these impacts needs to pay due attention to impacts not directly experienced in the region, but caused by consumption there. For example, the manufacture of a camera in Japan, purchased by a resident of Yorkshire & Humber, might not contribute directly to the English region's CO<sub>2</sub> emissions. However, it will have involved the emission of CO<sub>2</sub> in a factory in Japan, and this should be factored into Yorkshire & Humber's total environmental impact (see Appendix A for further discussion).

Whilst there are needs to refine how we measure environmental impact, there are some tools which are progressing thinking in this area:

- The ecological footprint is a measure that attempts to count such embodied costs
- Friends of the Earth are currently, in collaboration with European partners, developing a proposal for a measure of resource use which may be useful for the regions.
- The Regional Index of Sustainable Economic Well-being (R-ISEW), which is used by Yorkshire Forward, was first developed in the United States for the years 1950 and 1988 by Herman Daly and John Cobb. Taken together the adjustments which comprise the Daly and Cobb ISEW can be expressed in the equation detailed in Box 6.

**Box 6: Daly & Cobb ISEW summary**

<b>ISEW =</b>	<b>Personal consumer expenditure</b>
-	<b>adjustment personal consumption for income inequality</b>
+	<b>public expenditures on health and education</b> (non-defensive)
+	<b>value of domestic labour</b> (and volunteering)
+	<b>economic adjustments</b> (service flow from consumer durables)
-	<b>defensive private expenditures</b> (commuting, car accidents, personal pollution costs)
-	<b>costs of environmental degradation</b> (emissions)
-	<b>depreciation of natural capital</b> (land loss, resource depletion)

- Whilst ISEW is a more meaningful measure of progress than Gross Domestic Product (GDP) or GVA, it can be criticised for:
  - taking as its starting point economic activity, making the assumption that more economic activity is, *ceteris paribus*, better.
  - not including embodied environmental costs of goods consumed in the UK but produced elsewhere, and
  - not measuring human experience directly

In the absence of a perfect measurement tool, a combination of measures should be considered by the region in assessing its progress. Given that we know that the key environmental impacts are direct CO<sub>2</sub> emissions from transport and energy consumption, our food, and the embedded environmental costs associated with the consumption of goods, attention should focus on measures that capture these three impacts.

### *Well-being*

The measurement of well-being has come a long way in recent years. The governments of many countries collect subjective measures of well-being, including New Zealand, Canada and the UK itself, within the sustainable development indicator set.<sup>48</sup> The European statistics agency Eurostat is currently exploring the feasibility of well-being indicators for Europe, and the OECD will be developing a handbook on subjective well-being measurement as part of its Global Project on Measuring the Progress of Societies.<sup>49</sup>

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<sup>48</sup> e.g. Defra (2007) *Sustainable indicators in your pocket 2007* (London: Defra)

<sup>49</sup> See [www.oecd.org/progress](http://www.oecd.org/progress)

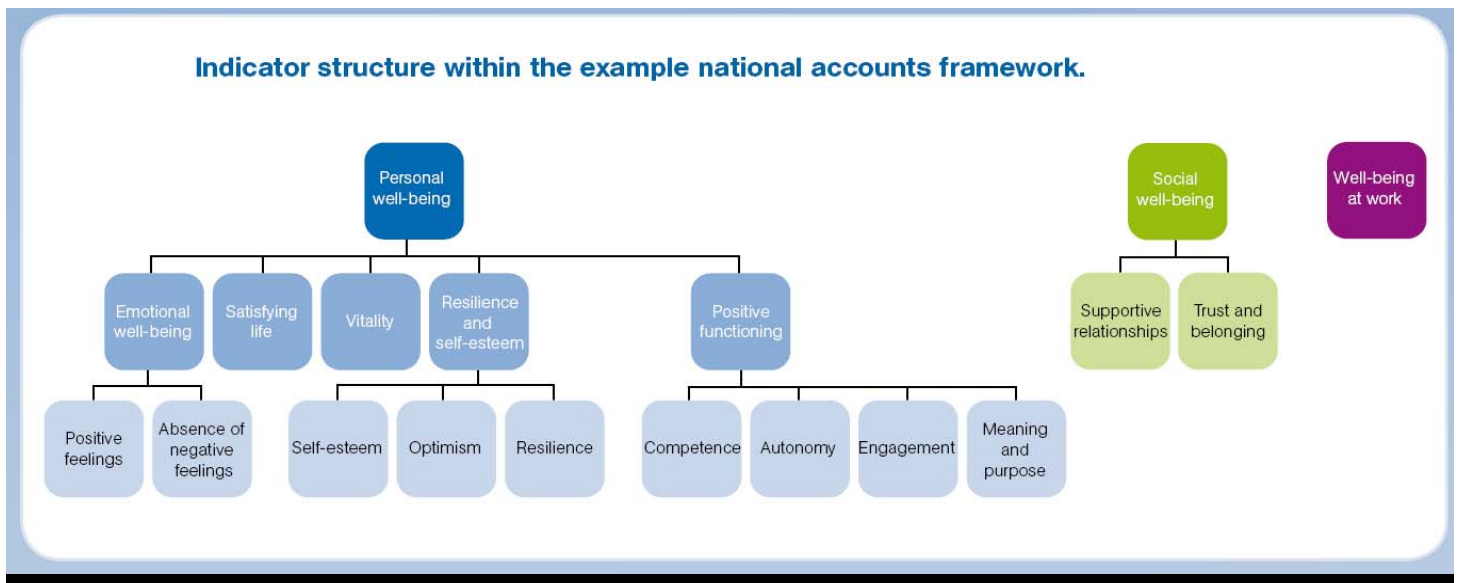
Well-being is a multi-dimensional and dynamic phenomenon (see figure 4) and whilst it has often been measured with a single summary indicator,<sup>50</sup> in January 2009, **nef** produced the National Accounts of Well-Being for 22 European countries, which offered a first attempt at measuring the full texture of well-being.<sup>51</sup>

The National Accounts of Well-being are based on data from the European Social Survey which contains detailed measures of the experience of over 40,000 people. 47 questions were brought together measuring people’s personal and social well-being, as well as a module on well-being at work. The full framework is presented in Figure 6.

Because the National Accounts of Well-Being are based on individual level data they immediately provide data on inequality and distribution across the population. One can determine what percentage of the population are in ‘well-being poverty’, and produce measures of well-being inequality. With sufficient sample sizes, we will be able to analyse the well-being of specific population groups such as the unemployed, the elderly or those living in particular areas of the country.

The National Accounts are intended as a first attempt to capture the complexities of well-being and **nef** are keen to develop them further in conjunction with academics, policy makers, the public and civil society. A particular aim is to ensure that the indicators can be interpreted in a way that can best inform policy decisions.

**Figure 6. National Accounts of Well-Being structure**



<sup>50</sup> The most commonly used indicator of subjective well-being is called ‘life satisfaction’, whereby an individual is asked how satisfied they are with their life as whole nowadays. Typically responses are made on a 0-10 scale, where 0 means dissatisfied and 10 means satisfied.

<sup>51</sup> Michaelson *et al* (2009)

## 6. Challenges going forward

The success of the IRS should be judged against its ability to support a fair and more socially just society which is living within the limits of the biosphere.

An over-arching social policy goal for the IRS must be Green Well Fair - defined as the fair and equitable distribution of social, environmental and economic resources between people, countries and generations.

A substantial environmental transformation of the regional economy is required over the next 10 years in order to avert a series of self-reinforcing social, economic and environmental crises.

The Integrated Regional Strategy (IRS) is a key mechanism to guide and develop this transformation process, and its implementation will require co-ordinated action at the regional and national scale, as well as the local level across the public, private sectors and civil society.

## Appendix 1: Definitions of categories used in REAP

**Housing, construction and maintenance** includes the impacts of the construction industry, the building and maintenance of our homes, and services relating to our homes such as rentals and mortgages.

**Home energy** includes all gas and electricity consumption in the home, plus other fuels such as coal and oil.

**Transport** is due to fuel consumption, car ownership, public transport, flying and construction and maintenance of the transport networks

**Food and drink** includes food consumed at home or out at restaurants or other catering establishments.

**Consumer goods** means any products we purchase, including durable large household objects such as furniture and appliances and smaller products such as newspapers, clothing and electronics.

**Private services** means any service we consume such as recreation, financial, telephone, insurance, private schools and medical care.

**Government** includes the administration of central and local government, plus services that they manage such as social services, waste management, schools and universities.

**Capital investments (CI)** covers investment in capital assets such as factories, machinery, transport equipment, and other buildings and structures. Some of the capital assets however are included in the other categories, for example dwellings come under housing, and building roads and railways would come under transport. This section includes the other remaining sectors such as machinery, the wholesale trade and the chemical industry.

## Appendix 2: Guiding Principles of One Planet Living®

To achieve a sustainable future, we need to design communities which enable people to live sustainably.

GLOBAL CHALLENGE	OPL PRINCIPLE	OPL GOAL and STRATEGY
Climate change due to human-induced build up of carbon dioxide (CO <sub>2</sub> ) in the atmosphere	Zero Carbon	<i>Achieve net CO<sub>2</sub> emissions of zero from OPL developments</i> Implement energy efficiency in buildings and infrastructure; supply energy from on-site renewable sources, topped up by new off-site renewable supply where necessary.
Waste from discarded products and packaging create a huge disposal challenge while squandering valuable resources	Zero Waste	<i>Eliminate waste flows to landfill and for incineration</i> Reduce waste generation through improved design; encourage re-use, recycling and composting; generate energy from waste cleanly; eliminate the concept of waste as part of a resource-efficient society.
Travel by car and airplane can cause climate change, air & noise pollution, and congestion	Sustainable Transport	<i>Reduce reliance on private vehicles and achieve major reductions of CO<sub>2</sub> emissions from transport</i> Provide transport systems and infrastructure that reduce dependence on fossil fuel use, e.g., by cars and airplanes. Offset carbon emissions from air travel and perhaps car travel.
Destructive patterns of resource exploitation and use of non-local materials in construction and manufacture increase environmental harm and reduce gains to the local economy	Local and Sustainable Materials	<i>Transform materials supply to the point where it has a net positive impact on the environment and local economy</i> Where possible, use local, reclaimed, renewable and recycled materials in construction and products, which minimises transport emissions, spurs investment in local natural resource stocks and boosts the local economy.
Industrial agriculture produces food of uncertain quality and harms local ecosystems, while consumption of non-local food imposes high transport impacts	Local and Sustainable Food	<i>Transform food supply to the point where it has a net positive impact on the environment, local economy and peoples' well-being</i> Support local and low impact food production that provides healthy, quality food while boosting the local economy in an environmentally beneficial manner; showcase examples of low-impact packaging, processing and disposal; highlight benefits of a low-impact diet.

<p><b>Local supplies of freshwater are often insufficient to meet human needs due to pollution, disruption of hydrological cycles and depletion of existing stocks</b></p>	<p><b>Sustainable Water</b></p>	<p><i>Achieve a positive impact on local water resources and supply</i>  Implement water use efficiency measures, re-use and recycling; minimise water extraction and pollution; foster sustainable water and sewage management in the landscape; restore natural water cycles.</p>
<p><b>Loss of biodiversity and habitats due to development in natural areas and overexploitation of natural resources</b></p>	<p><b>Natural Habitats and Wildlife</b></p>	<p><i>Regenerate degraded environments and halt biodiversity loss</i>  Protect or regenerate existing natural environments and the habitats they provide to fauna and flora; create new habitats.</p>
<p><b>Local cultural heritage is being lost throughout the world due to globalisation, resulting in a loss of local identity and wisdom</b></p>	<p><b>Culture and Heritage</b></p>	<p><i>Protect and build on local cultural heritage and diversity</i>  Celebrate and revive cultural heritage and the sense of local and regional identity; choose structures and systems that build on this heritage; foster a new culture of sustainability.</p>
<p><b>Some in the industrialised world live in relative poverty, while many in the developing world cannot meet their basic needs from what they produce or sell</b></p>	<p><b>Equity and Fair Trade</b></p>	<p><i>Ensure that the OPL community's impact on other communities is positive</i>  Promote equity and fair trading relationships to ensure the OPL community has a beneficial impact on other communities both locally and globally, notably disadvantaged communities.</p>
<p><b>Rising wealth and greater health and happiness increasingly diverge, raising questions about the true basis of well-being and contentment</b></p>	<p><b>Health and Happiness</b></p>	<p><i>Increase health and quality of life of OPL community members and others</i>  Promote healthy lifestyles and physical, mental &amp; spiritual well-being through well-designed structures and community engagement measures, as well as by delivering on social and environmental targets.</p>

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