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**THE DEVELOPMENT OF NATIONAL, REGIONAL AND LOCAL INDICATORS  
OF SUSTAINABLE DEVELOPMENT IN THE UNITED KINGDOM**

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<sup>1</sup> This paper represents the views of the author and does not necessarily reflect those of the Department or the UK Government

## 1. Overview

Following the Rio Earth Summit in 1992, the UK produced its first set of about 120 sustainable development indicators in 1996 and a second, substantially revised set of about 150 indicators in 1999. A key element of the new indicators is a small subset of 15 ‘headline’ indicators. These are intended to focus public attention on what sustainable development means and to give a broad overview of whether we are achieving a “better quality of life for everyone, now and for generations to come”.

The development of indicators of sustainable development is not a theoretical nor academic exercise carried out by statisticians in isolation. The process of development needs to be participative and involve key players who can influence progress towards sustainable development (eg policy makers, businesses, non-government organisations (NGOs), the public). Indicators can be powerful and useful tools but in order to be effective there needs to be some ownership by those who can influence the underlying levels and trends. The indicators thus need to be linked to policy aims, objectives and outcomes, and to cover key issues and public concerns relating to quality of life.

This paper covers some of the main features in the development of the UK indicators. These include:

- The **integrated development** of both the indicators and the new national sustainable development strategy
- The use of the **same framework** for both the strategy and the indicators – with each indicator measuring progress of a key aim or objective in the strategy
- Extension of the core set of indicators to cover more comprehensively the **social dimension** of sustainable development (eg poverty, education, health, crime, housing, etc)
- **Government-wide development** with the indicators and strategy (where appropriate) linking with or building on other relevant government initiatives (eg the anti-poverty strategy, life long learning, etc)
- Where practical building on the indicator work of **international organisations** (eg UNCSO, OECD, European Environment Agency, etc)
- The development of the 15 **‘headline’ indicators**, which form a “quality of life barometer”
- **Extensive consultation** – including national consultation papers/exercises, national workshops/seminars, advisory groups of experts and public focus groups
- Subsequent development of **regional and local indicators** to reflect local concerns and issues
- Further work to **refine and develop** the new core set of indicators
- **Regular updates** of the headline indicators and website.

This paper also gives some illustrative results and analyses.

Details of the core set of about 150 indicators were published in ‘Quality of life counts’ (‘QOLC’, December 1999) and this with the latest updates of the headline indicators are found on our website <http://www.sustainable-development.gov.uk/>. References in ‘QOLC’ are given throughout this paper to aid the reader.

## 2. The UK Sustainable Development Strategy

On 17 May 1999, the UK government published *A better quality of life: a strategy for sustainable development for the United Kingdom*. The strategy set out:

- the principles of sustainable development;
- some of the priorities for action in the UK;
- key actions the government is taking;
- commitments which the government had so far made
- and a core set of about 150 indicators of sustainable development, which are central to monitoring and reporting on progress.

The strategy says that at the heart of sustainable development is the simple idea of **ensuring a better quality of life for everyone, now and for generations to come**. It means meeting four objectives at the same time:

- social progress which recognises the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources;
- maintenance of high and stable levels of economic growth and employment;

and considering the long term implications of decisions.

Sustainable development cannot be achieved by government alone, although government needs to take a lead and set a framework within which others can take the appropriate action. Businesses and individuals also have a part to play. So the indicators are intended to highlight the key issues and objectives, and thus help people to understand how they can contribute to achieving more sustainable development, through their work and in their personal lives.

The latest core set of indicators for the UK cover the social, economic and environmental dimensions of sustainable development and built on the work done to produce the first UK set in 1996. There were a number of significant features in the development of the latest core set of indicators:

- (i) They were developed alongside and at the same time as the development of the new strategy for the UK.
- (ii) There was considerable consultation and work both within and outside government.
- (iii) The core set covered much more comprehensively the social dimension of sustainable development.
- (iv) The development of 15 'headline' indicators covering people's public concerns like health, jobs, crime, air quality, housing, education, wildlife and economic prosperity.

### 3. The Development of the UK Indicators

#### Joint development of the indicators with the national strategy

The joint development of the indicators with the strategy was a key to the successful production of relevant and useable indicators of sustainable development. This involved:

- Joint national consultation exercises seeking the views and suggestions of those outside government
- Work across government with a wide range of other government departments
- Development of objectives and outcomes, and then relevant indicators to monitor progress
- Development of a joint framework for both the strategy and the indicators
- Active support of the Deputy Prime Minister and other ministers.

#### The UK framework for the indicators and the strategy

Since sustainable development covers a very wide range of objectives and indicators, an organising framework is crucial in highlighting the key areas and priorities, and the links between the issues and the indicators. There is no international consensus on a particular framework, although most of those used by other countries or international organisations have been based on the three overarching pillars of sustainable development (ie economic, social and environmental issues). This approach also informed the framework of the UK strategy and indicators, however, the UK framework also sought to show how issues were linked and integrated by presenting them under six themes.

The first was

- **assessing overall progress and priorities** - using the headline indicators;

there then followed three broad themes

- **sustainable economy** - covering efficient use of resources, economic stability and competitiveness, education and skills of the population, employment and equal opportunities, ethical trading, action by producers and consumers in priority areas (eg the home, personal transport, tourism and leisure);
- **building sustainable communities** - local economic vitality and equity between communities in the UK, health, access to services, culture and sport, housing,

planning and design, local environmental quality, crime, institutional arrangements and participation;

- **managing the environment and resources** - indicators covering persistent pollutants, climate change and energy, air quality, fresh water, seas oceans and coasts, soil, landscape and wildlife, forests, minerals extraction and use,

and finally

- **sending the right signals** - indicators on the mechanisms by which sustainable development can be put into practice, through government setting an example, through policy instruments like taxes and regulation, through information and campaigns to change people's behaviour;
- **international co-operation and development** - measures of global population and global poverty, aid to developing countries, implementation of international agreements, comparison of UK resource consumption with that of other countries.

The framework was further split into 19 sub-themes or 'families' of issues and indicators (see Table 1).

<b>TABLE 1 Sub-themes covered by the core set of indicators</b>	
<b>The headline indicators</b>	
H	The headline indicators
<b>A sustainable economy</b>	
A	Doing more with less: improving resource efficiency
B	Economic stability and competitiveness
C	Developing skills and rewarding work
D	Sustainable production and consumption
<b>Building sustainable communities</b>	
E	Promoting economic vitality and employment
F	Better health for all
G	Travel
J	Access
K	Shaping our surroundings
L	Involvement and stronger institutions
<b>Managing the environment and resources</b>	
M	An integrated approach
N	Climate change and energy supply
P	Air and atmosphere
Q	Freshwater
R	Seas, oceans and coasts
S	Landscape and wildlife
<b>Sending the right signals</b>	
T	Sending the right signals
<b>International co-operation and development</b>	
U	International co-operation and development

Each indicator was placed in one of 19 'families' in which it occurs within the strategy and linked to the objective it was designed to measure. Many indicators are relevant to more than one issue or family, however, to avoid duplication each was included only once within the framework (except for the headline indicators). In practice, because of the crosscutting nature of the issues and objectives, many of the indicators - arguably the better indicators - reflect more than one issue.

In about 20 cases the indicator was still to be developed and in a number of the other cases there are plans to change or refine the indicator in the future. The core set of indicators also contains a few 'contextual' indicators, which are not linked to any objective. These are included because they give relevant background information, which helps to explain trends in other indicators (eg demographic change).

### **Indicator selection criteria**

The national core set of indicators is intended:

- to describe, overall, whether we are achieving sustainable development;
- to highlight key national-scale policy initiatives relevant to sustainable development and to monitor whether we are meeting key targets and commitments in those areas;
- to educate the public about what sustainable development means;
- to raise public and business awareness of particular actions which they need to take in order to achieve more sustainable development;
- to report progress to international audiences;
- to help to make transparent the trade-offs and synergies between sustainable development objectives.

Indicators were therefore included in the national core set if they satisfied one of the following criteria:

- it is an overarching "state of the nation" indicator, describing a key objective (broadly, these are the "headline indicators");
- it reflects a key international or national commitment or target;
- it supports a key message for individuals or business especially in relation to key actions needed, for example on energy efficiency, health and safety at work, ethical trading etc.;
- it is recommended for use in international reporting, for example as proposed by UNCSO (unless another indicator reflecting the same or similar issue is felt to be more appropriate in the UK).

There are certain scientific and technical criteria, which an indicator also needs to satisfy. It should:

- be representative;
- be scientifically valid;
- be simple, easy to interpret and resonant to its key audience;
- show trends over time and be capable of being updated at regular intervals;
- give early warning about irreversible trends where possible;
- be sensitive to the changes it is meant to indicate;
- be based on readily available data or be available at reasonable cost;
- be based on data adequately documented and of known quality;
- have a target level or guideline against which to compare it

## **The debate between using aggregated or disaggregated indicators**

The United Nations has for some years published a "human development index" (HDI) which is a composite measure reflecting life expectancy, educational standards and average incomes weighted together. Eurostat (the Statistical Office of the European Communities) is still developing "environmental pressure indices" in which selected indicators in ten key areas are weighted together to produce an aggregated measure of progress in each area. Other aggregated indicators include the 'Ecological footprint' (by WWF and others), the 'Genuine savings index' (by the World Bank) and the 'Index of Sustainable Economic Welfare' (ISEW) a greening of GDP.

The government considered many of these aggregated indicators. It eventually took the view that, while some of these ideas are useful as tools for raising awareness (eg the Ecological footprint), they are not yet scientifically valid or technically robust and so cannot be used to monitor progress year on year in a reliable way. The choice of components, and the way in which they are weighted together, is largely subjective. A different choice of components, or of weights, can give different results, and hence the resulting measures are potentially misleading. Further, conflicting movements in the individual components may result in the masking of important underlying trends. Perhaps the most important difficulty with some of these indicators is that they are less easily understood by the public, so they do not meet the objective of helping people to understand what sustainable development means, nor will individuals feel that their actions could have any influence on a composite index.

The UK government considers that the headline indicators present an alternative, more transparent and comprehensive, picture than any aggregated measure, which would inevitably be subject to criticism about the choice of components and weights used. A fuller description of the headline indicators is given later in the paper.

## **4. The Process of Developing the Indicators**

A first set of about 120 national indicators of sustainable development for the United Kingdom was published in March 1996. This was intended as a preliminary set, to generate debate in this country and contribute to the international debate on indicators.

Following the 1996 set there has been extensive consultation both inside and outside government on the indicators. This involved many presentations and workshop sessions at national and international meetings and conferences, as well as more formal consultation through two national seminars, a series of advisory groups and two formal consultation documents. Many people and organisations from both inside and outside government, and within and outside the UK, made significant contributions to the development of the indicators and their publication.

The following sections give a brief chronological description of some of the key steps in the process of development and consultation. It is hoped that these might provide a useful reference and ideas for others working on the development their own indicators. More details are given in Chapter 7 of '*QOLC*' and on the Website.

## **Before QOLC was published in December 1999**

### National seminar (November 1996)

A first consultation seminar was held to review the 1996 indicators and try to identify any gaps or weaknesses. It was attended by around 120 people representing central and local government, environment agencies, academic and research organisations, Eurostat and OECD. Some of its many conclusions included the need to extend the indicators to include broader welfare and equity issues, to make more explicit links to objectives in the strategy, and indicate levels believed to be unsustainable.

### Advisory groups (May 1997-April 1998)

Seven relatively small advisory groups of experts from both within and outside government were then set up to review the first set of indicators and produce recommendations for the next set of national indicators. The groups were also consulted about the selection of UNCSD indicators for the UK pilot and initial ideas for a small set of 'headline' indicators. The advisory groups focused mainly on the environment and economic indicators and covered the following areas:

- the overall framework;
- global atmosphere, air quality, energy, transport and tourism indicators;
- economic, health and overseas trade indicators;
- water quality and resources indicators;
- land use, landscape and soil indicators;
- waste indicators; and
- wildlife and habitat indicators.

The groups produced a wide range of useful recommendations and suggestions. These included, for example, proposals for new indicators covering air pollution and an index of UK bird populations, and that the framework for the indicators should follow the emerging ideas for the new sustainable development strategy.

### Building on the work of others

There are many initiatives to develop sustainable development and related indicators at international, national, regional and local scales. It is important that these are co-ordinated, ensuring that wherever possible the same or consistent indicators are used to illustrate a particular issue in different contexts, to prevent confusion and avoid duplication of effort in collecting the necessary data.

In the international arena there is a considerable amount of co-ordination and co-operation between international organisations, such as United Nations (UN), Organisation for Economic Co-operation and Development (OECD), European Environment Agency (EEA) and European Commission (EC), in their work on indicators. UK statisticians together with colleagues from other countries have been closely involved in the work of these international organisations - sharing expertise and learning from their experience and ideas. As part of the UK's contribution to the piloting of the UN/CSD indicators of sustainable development, the UK considered using indicators from the pilot set unless a more appropriate national indicator was available.



Within the UK, in developing the sustainable development strategy strong links were made to many other related strategies across government. In a similar way the development of the core set of indicators, which underpin the strategy, was also linked to indicators in these other initiatives and where appropriate common or consistent indicators were used. For example the former Ministry of Agriculture, Food and Fisheries (MAFF) developed in parallel a set of agri-environmental indicators. These indicators included seven indicators, which use the same data sources and are either identical or very similar to corresponding indicators in the core sustainable development set. Similarly, the Department of Trade and Industry (DTI) later published a set of UK competitiveness indicators, of which five were also in the core sustainable development. Other related government initiatives covered poverty and social exclusion, crime, transport, health, tourism, etc. Relevant and appropriate indicators were taken from all these initiatives.

#### UK Round Table Report on Indicators (December 1997)

The UK Round Table on Sustainable Development published a report *Getting the best out of indicators* in December 1997. The report recommended that: *'the government should further develop its 1996 package of indicators of sustainable development to fully incorporate economic and social as well as environmental indicators'*.

It also fully supported the idea of a limited set of headline indicators and gave some ideas. It further recommended that the indicators should, wherever possible, have targets or alert zones attached, and that the government should publish a regular report on indicators highlighting progress, problems and future actions.

#### Consultation on the sustainable development strategy (February-May 1998)

Indicators were featured prominently in the consultation paper on the new sustainable development strategy *'Opportunities for change'*. Respondents were asked for their input to the review of the 1996 indicators and also on the idea of a small set of 'headline' indicators. There were over 1,300 written responses to the consultation and many gave useful ideas and suggestions for national indicators, which were fed into the production of a draft core set of indicators in May 1998.

#### National seminar (May 1998)

A second national seminar of about 120 national and some international experts was convened to discuss the emerging proposals for the national core set of indicators. These were set within the developing framework. There was general support for the integrated approach of the new framework and the wide range of issues and indicators covered. Participants gave suggestions for a large number of new indicators, together with some useful views on priority areas and indicators, and criteria for selection.

Participants were also canvassed for their views on a wide range of candidate indicators for the set of 'headline' indicators of sustainable development. A voting exercise revealed some consensus of views on a number of the environmental issues, but less agreement on the social and economic issues.

#### Consultation on the 'headline' indicators (November 1998-January 1999)

A consultation paper *Sustainability counts* was published on proposals for a small set of 'headline' indicators. The launch of the consultation received widespread coverage in the national newspapers and on television and radio. About 12,000 copies of the consultation document were distributed directly to a wide range of organisations across the UK and abroad. In addition a further 10,000 or so copies were distributed upon request to the public and various organisations and groups. The document was also made available on the Departmental website.

Just over 650 written responses were received. Over a third of the responses were from local authorities or Local Agenda 21 groups, nearly a third from professional bodies, trade associations, businesses, academics, etc., one sixth from non-government organisations, and the remaining sixth from individual members of the public.

There was considerable support for the concept and coverage of the package of indicators. A number of respondents successfully pressed for the addition of headline indicators covering crime and poverty. Others also felt that resource consumption should be better covered. This is recognised by the government and included in its future work programme.

#### Focus group research (January-February 1999)

The government also commissioned some research on the headline indicators with focus groups consisting of representative members of the general public. Despite widespread newspaper, radio and TV coverage of the launch there was little awareness or memory of the initiative two months later. There was some general support for the idea of headline indicators, although participants expressed a degree of cynicism about whether official figures could be trusted. They felt that some endorsement of the indicators by an independent body or figurehead would improve the credibility of the information. The package would also be more acceptable if the presentation included key actions taken by government and others to tackle the various issues.

The focus groups had some difficulty dealing with the wide scope of the indicators, but the presentation in the three broad themes (i.e. economic, social and environmental) helped understanding and communication. There was some general agreement about the issues covered by the indicators, although there was some debate about the individual indicators chosen. The groups suggested there was a need for simple and visual presentations (but not graphs) which could be used by the news media. There was also a call for local or regional versions as well as the national overview.

#### Other consultative events

There were many other related events, such as seminars and workshops, which produced useful suggestions and input to the core set of indicators. These included an away-day organised by the government of a small group of experts (April 1999), who gave valuable advice and ideas for summarising the headline indicators and for further integration and uncoupling analyses (see Chapters 3 and 5 of *QOLC*).

## **After QOLC was published in December 1999**

### UK Round Table Seminar (January 2000)

Following the publication of 'QOLC' the UK Round Table on Sustainable Development commissioned consultants to review the new indicators. They also convened a seminar of national experts to discuss and review further the new core set of indicators.

In general, it was agreed that the new indicators represented a significant improvement on the first set in 1996. The cross-cutting analysis of the indicators covering the integration and uncoupling of economic growth from environmental impacts (see Chapter 5 of QOLC) were particularly welcomed. However, a number of areas for further development were recommended including indicators reflecting overall resource use and efficiency, and the greater use of forward projections and scenarios.

### Local indicators of sustainable development (July 2000)

In July 2000 a new handbook '*Local quality of life counts*' was published. This offers ideas for measuring sustainable development and quality of life in local communities.

The handbook gives a menu of 29 indicators, from which local authorities might wish to consider using a selection for reporting on their Local Agenda 21 and Community Strategies. The indicators and handbook built on the extensive work already carried out at local and national levels and were developed by a joint initiative between local and central government and piloted tested in about 30 local authorities.

The indicators are based on local versions of some of the national indicators of sustainable development, including some of the 15 'headline' indicators, and also on a number of other indicators developed by local authorities and Local Agenda 21 groups.

### Regional indicators of sustainable development (January 2001)

'*Regional quality of life counts*' presents regional information for the nine English Regions and for Wales, where available, for each of the 15 headline issues. The headline indicators are intended to help raise public awareness about sustainable development. Since their publication, one of the regular demands has been for more local information, which is more relevant to people's local experiences. It is hoped that the annual regional report will help address this demand and further aid people's understanding about sustainable development.

Each English region is developing its own sustainable development framework, in consultation and co-operation with regional stakeholders and partners. Regions will choose indicators that seem most appropriate to them, in the light of their own circumstances and priorities, but it is hoped that this publication will provide a useful input. The regional sustainable development frameworks will, however, provide a more comprehensive assessment of sustainable development progress and policies in each region than can be done in this statistical publication.

### Annual Report of Sustainable Development and the national Website (January 2001)

In addition to publishing each individual headline indicators when new data becomes available, the latest versions of all 15 indicators are published together in the Annual Report of Sustainable Development '*Achieving a better quality of life*'. Following recommendations from the UK Round Table and others, a greater use of forward projections was made where possible. In most cases, the information on the indicators includes in graph or text form a forward look, which reflects either the expected or desired outcome of policies or actions in place or planned, or targets or objectives to which the government is committed.

### Development of new national indicators

In a number of areas of QOLC the need for an indicator was identified but data or methodologies were not available. In such cases the government made a commitment to develop such indicators in the future.

Development work since the publication has included:

- A research project to consider the difficulties in aggregating different resources together and develop better measures and indicators of resource use and resource efficiency. We are considering new indicators for the core set.
- A new public attitudes survey in England was carried out in 2001, and it is hoped that this will provide future indicators covering issues such as:
  - ⇒ Access to local green urban spaces
  - ⇒ Access to the countryside
  - ⇒ Quality of the countryside
  - ⇒ People's perceptions of their quality of life.

### The Sustainable Development Commission

Following the Strategy, the Sustainable Development Commission was set up in 2000. One of the Commission's key tasks covers monitoring progress and reviewing the state of sustainable development in the UK as revealed by the indicators.

## **5. The Headline Indicators**

A key feature of the UK's new indicators is a small subset of 15 'headline' indicators, which make up a quality of life barometer. These are intended to help raise public awareness and focus attention on what sustainable development means, and to give a broad overview of whether we are achieving 'a better quality of life for everyone, now and for generations to come'.

The headline indicators cover the three pillars of sustainable development, namely social progress, economic growth and environmental protection. They reflect people's everyday concerns - such as health, jobs, crime, traffic, air quality, housing, educational achievement, wildlife and economic prosperity.

### **Assessing overall progress**

To give a broad overview of progress, a tick and cross (Table 2) and traffic light approach to communicating progress was established, where for each indicator changes are judged in relation to the objective and the longer-term trend (since 1970), and more recent trends (since 1990).

<b>TABLE 2 Headline indicators – national assessment</b>		
	Change since 1970	Change since 1990
<b>Economic output</b>	✓	✓
<b>Investment</b>	✗	✗
<b>Employment</b>	~	~
<b>Poverty</b>	✗	~
<b>Education</b>	...	✓
<b>Health</b>	✓	~
<b>Housing</b>	...	~
<b>Crime</b> – violent	✗	✗
– vehicle, burglary	✗	✓
<b>Climate change</b>	✓	✓
<b>Air quality</b>	...	✓
<b>Road</b>	✗	~
<b>River water quality</b>	~	✓
<b>Wildlife</b> (farmland birds)	✗	✗
<b>Land use</b>	...	~
<b>Waste</b> – household	...	✗
– other	...	...
<i>Key:</i>		
<i>Significant change, in direction of meeting objective</i>		✓
<i>No significant change</i>		~
<i>Significant change in direction away from meeting objective</i>		✗
<i>In sufficient or no comparable data</i>		...

### **Government's commitment**

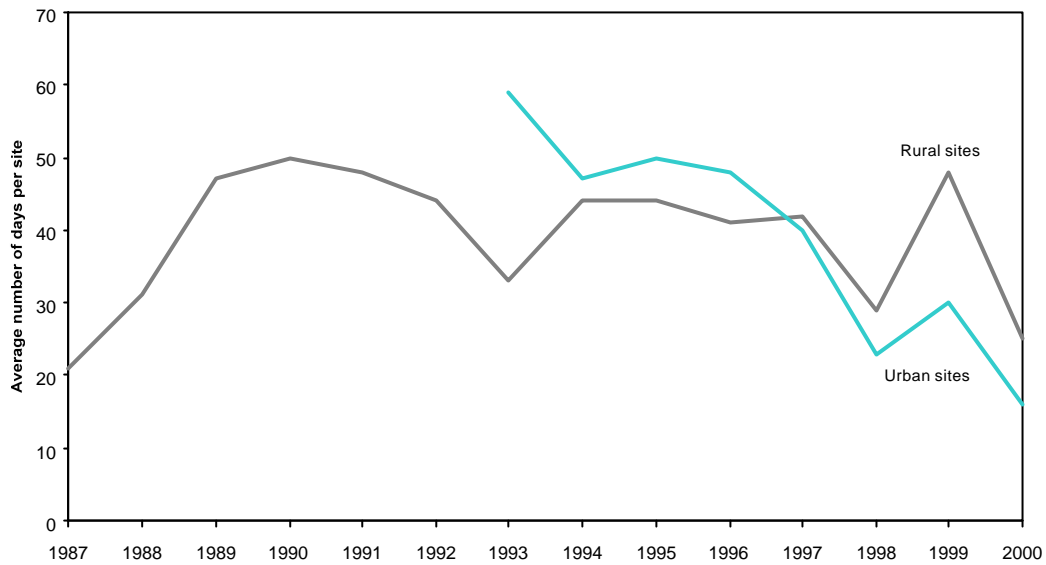
The Strategy states that:

*"the Government's aim is for all the headline indicators to move in the right direction over time, or, where a satisfactory level has been reached, to prevent a reversal. Where a trend is unacceptable, the Government will adjust policies accordingly, and will look to others to join it in taking action."*

### **New indicators**

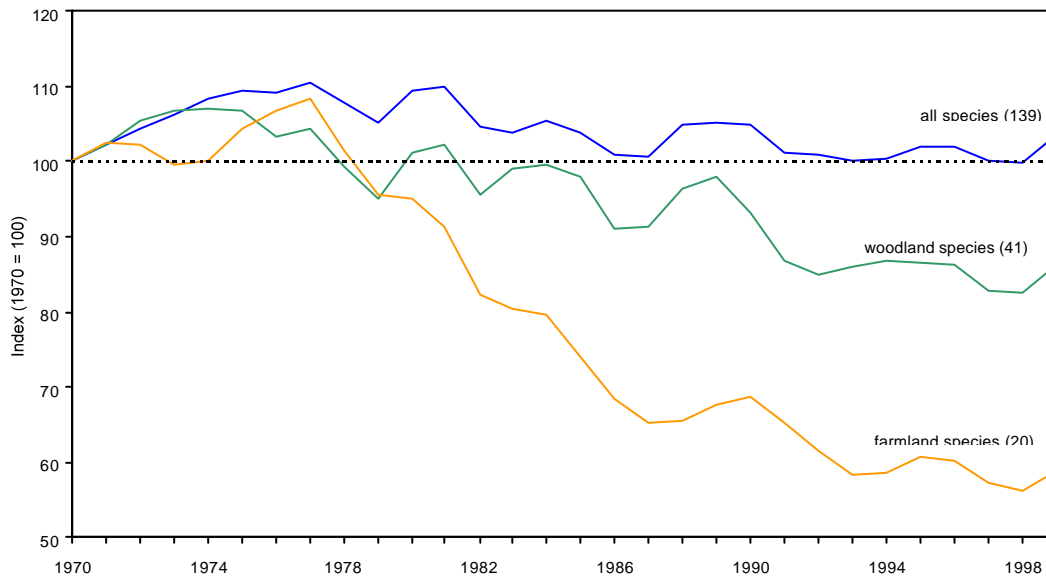
Some of the headline indicators were especially developed (for example those covering Air quality and Wildlife) and others used recently produced new indicators (for example Healthy life expectancy). These were set alongside other key, well established indicators such as GDP and Employment. Illustrations of the first three of these headline indicators are given here.

**Days when air pollution is moderate or higher: 1987-2000**



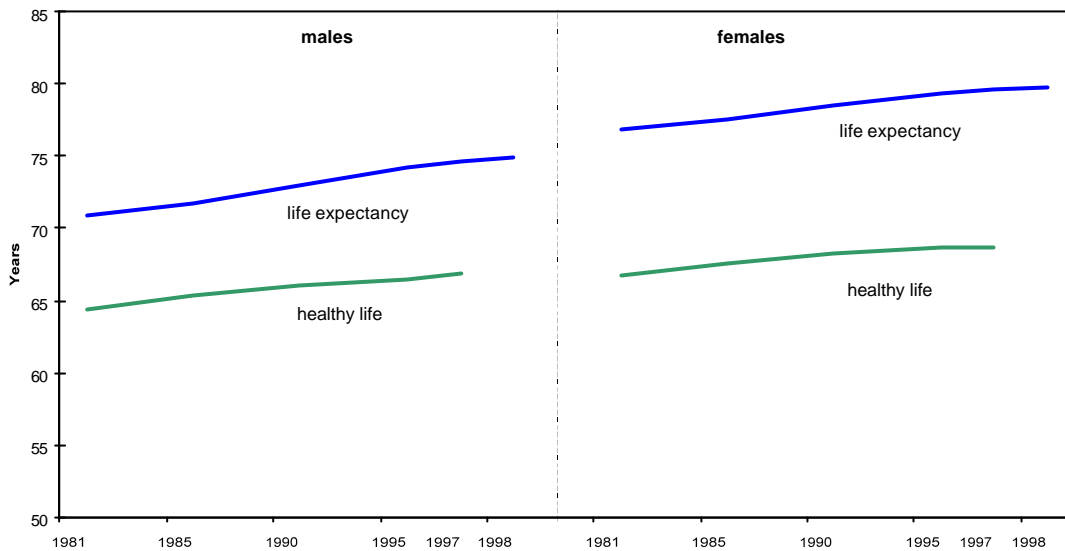
The air headline indicator was developed through a research project and measures the average number of days per site on which pollution levels were above National Air Quality Standards. In urban areas, the average number fell from 60 days in 1993 to 16 days in 2000. In rural areas the average number fluctuated between 20 and 50 days between 1987 and 2000.

**Population of wild birds: 1970-1999**



The wildlife headline indicator was also developed by a research project. It uses populations of wild birds, which are regarded as a good indicator of the broad state of wildlife and the countryside, because birds are wide-ranging in habitat and tend to be at or near the top of the food chain. Overall populations of common breeding birds have declined by around 5 per cent since the mid 1970's, but woodland and farmland birds have declined by much more ie about 20 per cent and 40 per cent respectively.

Expectancy at birth of years lived in good or fairly good general health: 1981 - 1998



Both life expectancy and healthy life expectancy (based in self-rated health) increased in GB since 1981. However, healthy life expectancy did not increase as fast, and this means the proportion of life men and women can expect to spend in poor health has also increased.

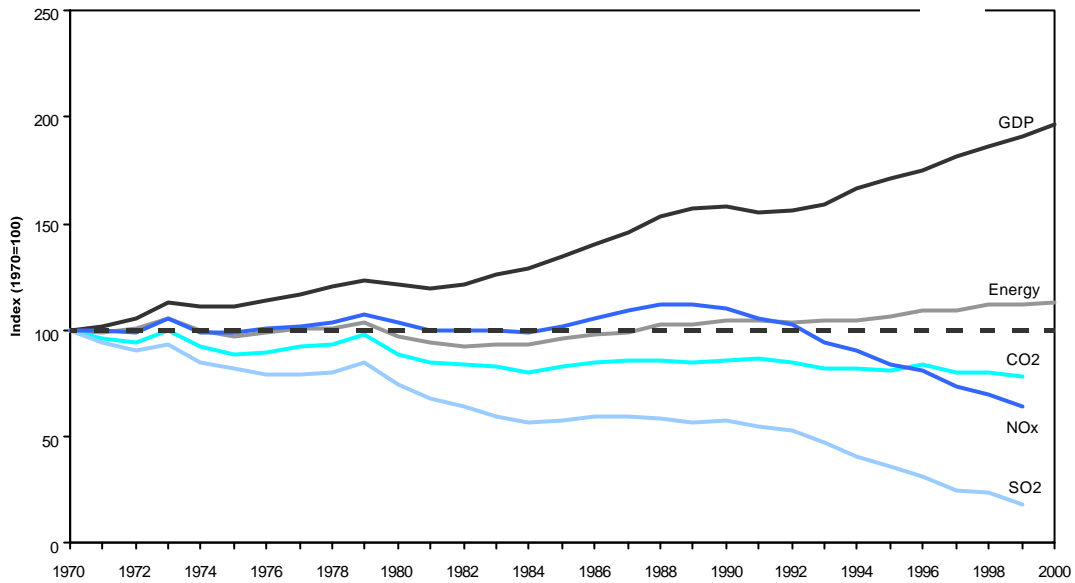
## 6. Further Analysis of the Indicators ; Integration and Uncoupling

One section of the indicator publication 'QOLC' that many people found to be most useful and resonant was Chapter 5. This chapter provided further analysis that demonstrated the integration of issues across and within sectors and how in some cases economic development has been decoupled from environmental degradation. Some of these analyses built on presentations and ideas by others such as the European Environment Agency. The following gives illustrations of some of the results from this chapter.

### Energy and carbon dioxide emissions

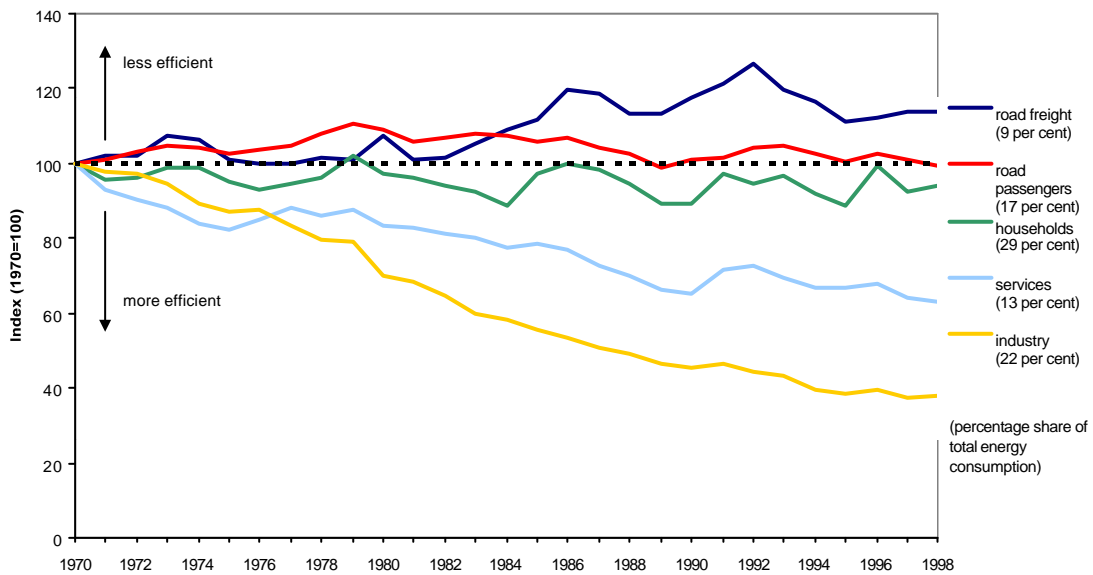
In the UK over the last 30 years, total carbon dioxide emissions in relation to total economic output have fallen by a factor of two. In the longer term, global emissions of carbon dioxide will need to fall in relation to economic output by a factor of 10 or more (ie to a tenth or less of current levels) to combat the threat of climate change.

### Uncoupling road traffic from economic growth and environmental impacts: 1970-2000



Scope for uncoupling carbon dioxide emissions from energy consumption in future rests largely on technological change and renewables: the UK has a target to increase the proportion of electricity met from renewables from 2 per cent to 10 per cent as soon as possible and hopes to achieve this by 2010.

### Sectoral final energy consumption/output: 1970-1998



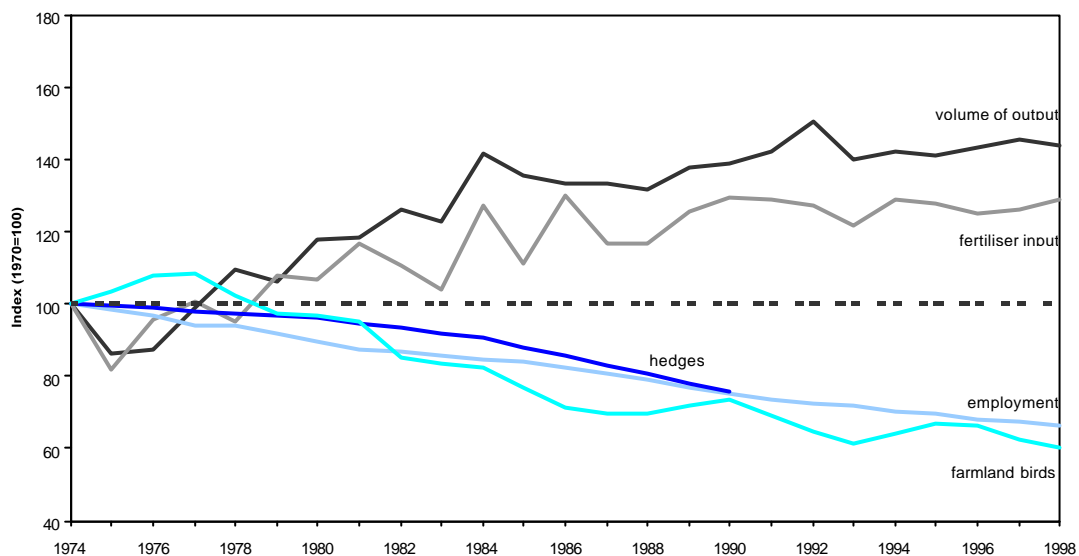


In the past, the main savings in energy have been achieved by industry; in future, a larger proportion of savings will need to come from households, transport and the services sector. Households and transport now account for almost two-thirds of energy consumption.

## Agriculture

Over the 25 years up to 1998, underlying economic trends, reinforced by the CAP, promoted progressive restructuring and steady productivity growth through intensification of production and greater efficiency.

**Agriculture: output volume, employment, inputs of fertilisers and environmental impacts: 1974-1998**



In order to increase yields and overall production, there were large increases in the use of fertilisers and pesticides, and in the removal of hedgerows particularly during the 1970s and 1980s.

Farmland bird populations declined by 35 per cent between 1973 and 1998. There was also a decline in the number employed by agriculture.