

## DEFINING AND MEASURING SUSTAINABLE TOURISM: BUILDING THE FIRST SET OF UK INDICATORS

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**Abstract:** We describe the process by which the first set of national indicators of sustainable tourism is being derived in the UK. These indicators will apply to England rather than to the whole of the UK. The definition of sustainable tourism emerged as part of the Government's sustainable development strategy and became known as "wise growth", to reflect the need to balance economic growth with the impact on local communities and on the environment. This calls for indicators beyond the "green" indicators used to assess environmental impact. The indicators have been developed through consultation, within constraints imposed by limited availability of data

### I. INTRODUCTION

The Department for Culture, Media and Sport (DCMS) is the UK government department responsible for tourism policy. In April 1998, DCMS published a consultation paper *Tourism – Towards Sustainability*. The results of this consultation helped develop a new tourism strategy *Tomorrows Tourism* (DCMS, 1999), which included a commitment to develop a series of national statistical indicators to help measure progress in achieving sustainable tourism. DCMS commissioned CAG Consultants to assist them to develop the indicators (DCMS, forthcoming).

Sustainable tourism fits within the UK Government's overall strategy for sustainable development, which is managed by the, Department of the Environment, Transport and the Regions (DETR). The overall strategy, *A Better Quality of Life* (DETR,

1999a), was published only after the start of the tourism project. The subsequent publication of a baseline assessment of the overall strategy (DETR 1999b; UK Round Table 2000) summarised the national set of sustainable development indicators. This recorded that tourism indicators were still under development. The sustainable tourism indicators discussed in this paper are therefore designed to supplement the set of indicators describing the overall strategy. The tourism indicators have been developed more in parallel with the overall strategy –and interacting with it– rather than taking the broad strategy as the starting point for work in the tourism sector. The development of the tourism indicators did, of course, draw on earlier work on sustainable development indicators (eg Department of the Environment, 1996; World Tourism Organisation, 1998).

The brief to CAG from the DCMS

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specified the following mandatory features for the indicators:

- (1) Consistency with *Tomorrow's Tourism* and the new national set of sustainable development indicators;
- (2) Parsimony: the smallest set of indicators sufficient to demonstrate this compatibility;
- (3) Pragmatism: involve minimum (or no) collection of new data; and
- (4) Peer reviewed: demonstrate a general degree of acceptance among experts in the fields.

The work on tourism indicators began by asking what topics should ideally be represented by sustainable tourism indicators. We took this approach to avoid defining sustainable tourism as solely those topics for which data are. Inevitably the final set of indicators, which relies on existing data sets as required by DCMS represents a relatively small portion of the original set of topics.

An important component of sustainable development is global commitment ("think global, act local"). One view is therefore that sustainable tourism indicators should reflect UK residents' impact overseas and our contribution to global phenomenon such as climate change. In contrast, *Tomorrow's Tourism* focuses on tourism within the UK. The decision was made early on to focus on

sustainable tourism within the UK, mainly because UK residents' impact is extremely difficult to measure. The final set does not include any direct measure of UK tourists' impact in other countries, but it does include an indicator that relates to climate change.

## II. THE INDICATOR SELECTION PROCESS

Perhaps the most crucial stage in the development of indicators is to define what those indicators should represent to define the themes and topics that constitute sustainable tourism. Agreeing the themes and topics effectively determines what we in the UK mean by sustainable tourism. The difference between themes, topics, indicators and data sets is summarised below, and an example is given. For each theme there are likely to be several possible topics, for each topic there may be numerous indicators that could be used, and for each indicator there may be a variety of possible data sources.

<i>Themes</i>	Are broad issues.
<i>Topics</i>	Are some of the important contributors to a theme.
<i>Indicators</i>	Are a time series of data selected to represent the topic.
<i>Data sets</i>	Are sets of data which are used to create the time series.

Theme	Topic	Indicator	Data Set
Supporting local jobs & economies	Availability of tourism jobs to local people	Percent of tourism jobs filled by local people	Data provided by major tourism facilities

**Table 1**  
**Topics Selected to Describe Sustainable Tourism**

DETR Headings from <i>Quality of Life Counts</i>	Sustainable Tourism Topic	RANK
<b>Sending the Right Signals</b>		
Information and involvement	Tourists' awareness of their impacts	17
<b>A Sustainable Economy</b>		
Doing more with less	Materials used in construction of tourist facilities & supporting infrastructure	22=
	Resources consumed by tourists	17
Economic stability and competitiveness	Industry profitability / competitiveness	3=
	Industry investment	13
Developing skills and rewarding work	Quality and quantity of jobs filled by local people.	1
Sustainable production and consumption	Provision of more sustainable tourist activities / packages	22=
	Tourist choices (sustainable or not)	6
	Sustainable practices by tourism facilities	12
<b>Building Sustainable Communities</b>		
Promoting economic vitality and employment	Links into local economies - retention of tourist spend locally & support for both direct & indirect jobs	2
Meeting social needs	Quality & quantity of tourism provision	3=
	Tourism support for essential facilities in rural areas	11
	Access to tourism for all	15
	Traffic congestion resulting from tourist travel	8
Shaping our surroundings	Scale & appropriateness of tourism development & supporting infrastructure	10
	Local distinctiveness / diversity / cultural heritage	5
	Loss of open space to tourism developments & supporting infrastructure	21
Bringing it all together - integrated policies	Local management plans and their inclusion in local land use plans and transport strategies	19
Involving everyone	Stakeholder involvement in visitor management plans	7
	Stakeholder involvement in development decisions	
<b>Managing the Environment and Resources</b>		
Climate change and energy supply	Contribution to climate change of travel to and within tourist destinations.	9
	Contribution to climate change of energy consumption by tourist facilities.	20
Freshwater	Demand for water resources by tourist facilities	24
Landscape & wildlife	Conservation, enhancement & damage to habitats & landscape	16
<b>International Co-operation and Development</b>		
	<i>None</i>	

A rough idea of the comparative weight given to the overarching themes of sustainable development can be obtained by comparing the number of indicators allocated to each of the *Quality of Life Counts* headings. (See table 2). The headings *Sending the Right Signals* and *International Co-operation and Development* are mainly

concerned with the contribution of central government to sustainable development. It is to be expected that these topics are poorly represented within sustainable tourism. Of the remaining three headings, it is noticeable that the impact of tourism on communities has the highest representation while environmental factors appear to be under-

represented. But a number of topics which are commonly considered to be environmental, eg. resources used by tourists and industry, traffic congestion and loss of open space have been allocated to other headings in line with the approach followed in *Quality of Life Counts*. Environmental topics are therefore not as under-represented as might at first appear.

### III. SELECTING THE INDICATORS

The preparation for discussion in the first workshop inhabited an ideal world in which sustainable tourism topics were identified regardless of the likelihood of finding plausible indicators. Following that workshop the project took a more pragmatic turn and investigated potential indicators to represent the top ranked topics. A second paper on candidate indicators was prepared which describes 35 potential indicators. In arriving at this set we considered the suggestions made during the consultation on *Tomorrow's Tourism*.

The process by which DCMS and CAG arrived at a set of sustainable tourism indicators was, in effect, to use a 'Delphi

group' approach. Questions were posed to a selected panel, who discussed the material in sub-groups and in plenary. The researchers then iterated the outcomes to formulate the next set of questions. The steps were as follows:

1. CAG prepared a discussion paper on sustainable tourism themes and topics and the criteria for indicator selection
2. Workshop 1 was held to agree the key themes and topics as well as the criteria for indicator selection.
3. CAG prepared a second discussion paper on candidate indicators and data sources.
4. Workshop 2 was held to agree a provisional indicator set.
5. Data were collected, processed and interpreted.
6. A draft final report was prepared.
7. Additional comments were received

**Table 2**  
**Distribution of Topics across Categories**

<i>Quality of Life Counts</i> Headings	Topics (per cent)	
	DETR	Sustainable Tourism
Sending the Right Signals	7	4
A Sustainable Economy	29	33
Building Sustainable Communities	28	46
Managing the Environment & Resources	30	17
International Co-operation & Development	6	0
	100% (106 topics)	100% (24 topics)

from DCMS and the English Tourism Council.

8. The final report was completed.

The English Tourism Council (ETC) is a public body funded by DCMS. As part of the tourism strategy (DCMS, 1999) the English Tourist Board was transformed into a strategic body for tourism in England. It was given lead responsibility for developing sustainable tourism in the English domestic market, working closely with other relevant agencies, and for ensuring that action contributes towards the achievement of the Government's overall sustainable development strategy. We shall see later that this gave rise to a further phase in the development of indicators.

#### **IV. DEFINING AND RANKING THE TOPICS**

##### **IV.1. A Framework for Understanding Sustainable Tourism**

At the start of the project CAG prepared a paper on the themes and topics encompassed by sustainable tourism. The initial topic list was derived from a review of relevant literature. The topics were subsequently grouped under the five chapter headings and sub-headings from *A Better Quality of Life*, which form the framework for *Quality of Life Counts*. These five main headings are:

- Sending the right signals
- A sustainable economy
- Building sustainable communities

- Managing the environment and resources

- International co-operation and development

Some workshop participants preferred the framework known as VICE (visitors, industry, community and environment) as a way of understanding sustainable tourism. Sustainable tourism encompasses all four components and is very much a two way process. For example, visitors may have a welcome impact on local communities by contributing to local jobs and the diversity of facilities, but also have adverse impacts on tranquillity, safety and congestion. But the process does not stop here. Poor management of the local environment is likely to reduce the quality of visitor experience, discourage visitors and damage the local tourist industry, with consequent repercussion for the local community.

This intricate inter-dependency sums up the concept of sustainable development, which argues that we live in a complex ecosystem in which it is impossible to separate economy, environment and our quality of life. This is particularly important for tourism, which relies on the maintenance and management of a quality local environment and a welcoming local community. Sustainable tourism is therefore about protecting and managing resources for the future benefit of all.

In the event it was decided for CAG's report to apply the *Quality of Life Counts* framework rather than VICE. This would maintain consistency with the national sustainable development indicators. Also, in

the nature of sustainable development, many topics cross several VICE categories. For example 'resources consumed by tourist' and 'traffic congestion resulting from tourism travel' are the responsibility of both the industry and the visitors and can impact on the environment, which in turn affects the quality of life of the local community.

#### IV.2. Ranking the Topics

The themes and topics paper was discussed at a workshop in May 1999. Approximately 35 people representing various sectors of the tourism industry attended. Many of the topics in the initial list were drawn from publications that took an international perspective. Unsurprisingly, issues of high importance in some parts of the world are less crucial in the UK. The aim of the workshop was to give participants an opportunity to express their views on which topics are most important for the UK.

Nearly 50 possible topics were suggested in CAG's first paper and six additional topics were suggested by workshop participants. Workshop participants were asked to identify the topics that they thought were most important for sustainable tourism in the UK. A voting system was used to allow all participants to have an equal say in the final selection. Table 1 presents the top 24 topics. The third column shows the ranking of the topics derived from the votes at the workshop.

For all of these indicators a minimum requirement was that there should be at least some likelihood of available data now or in the foreseeable future. In this respect we did not

have the luxury of being able to specify the information requirements to meet a full framework, such as that proposed by Radermacher (1999). The paper also considered each indicator against a set of criteria applied by the DETR (Custance & Hillier, 1998, Levett, 1998) to select their headline sustainable development indicators, plus a final two criteria added by CAG. The criteria were:

- resonance to target audience - the tourism industry, central & local government
- robustness - *calculation is transparent and defensible*
- credibility - *direction of change reflects public experience*
- sensitivity - *responds to changes in the issue it is intended to measure*
- availability of data - *trend data is currently available*
- regularity - *data is regularly updated - at least every 5 years*
- cost effective - data is not prohibitively expensive to purchase or analyse

unambiguous - it is clear which direction of change is sustainable

The first workshop added a further three criteria which were also discussed in the paper:

- Internationally comparable
- Pay-back for data collector
- Threshold or reference value exists

Some of the candidate indicators appeared to be more viable than others, but we preferred to let the second workshop have the chance to consider 'outsiders'. For some topics we were unable to arrive at any (near) credible indicators and 4 of the top 24 topics were dropped at this stage. The four were (ranking shown in brackets):

- Provision of more sustainable tourism activities (22=)
- Materials used in construction of tourist facilities & supporting infrastructure (22=)
- Tourists' awareness of their impacts (17)
- Demand for water resources by tourist facilities (24)

The first of these excluded topics was on the grounds that it would be extremely difficult to reach agreement on what qualified as a 'sustainable tourism activity.' Often projects with environmental features have been awarded this title. But as this exercise has shown, there are not only a wide variety of environmental factors to be considered, but also social and economic impacts. The remaining three topics were excluded because they would require costly new surveys. All the topics were relatively low on the ranking list and their loss was not considered to be unduly serious.

The second workshop suggested several alternative indicators and ruled out others as unworkable, misleading or very poor reflections of the topic that they were intended to represent. Following this workshop 26 indicators were selected for further investigation. At this point another 4 topics were dropped, namely:

- Resources consumed by tourists (22)
- Tourist choices (sustainable or not) (6)
- Tourism support for essential facilities in rural areas (11)
- Local distinctiveness / diversity / cultural heritage (5)

and two stakeholder involvement topics were combined into one. Although several of these topics were highly ranked by the first workshop, our own investigations and the discussions at the second workshop led us to the conclusion that there are no plausible indicators for these topics. CAG suggested that none of these topics should be considered for future indicator sets.

By the end of the second workshop, therefore the number of topics for which plausible indicators appeared a possibility had been reduce from 24 to 15, and grouped as shown in table 3 below. The loss of topics occurred, across all of the DETR's themes. After the second workshop, two of the *Quality of Life Counts* headings had no tourism topics, although all of the key tourism themes are still represented in this set.

## **V. FINAL CHOICE OF INDICATORS**

The final stage of the project with CAG was to deliver precise specifications for each indicator, testing that data were available or likely to become so (details of each indicator are in DCMS, forthcoming). A further round of discussions took place with DCMS and ETC, including to ensure that the indicators made sense: did we know whether it was



**Table 3**  
**Comparing the Sets of Topics**

<i>Quality of Life Counts</i> Headings	Number of Topics		
	DETR	Top 24 Tourism	After 2 <sup>nd</sup> workshop
Sending the Right Signals	7	1	0
A Sustainable Economy	31	8	4
Building Sustainable Communities	30	11	8
Managing the Environment & Resources	32	4	3
International Co-operation & Development	6	0	0

good news or bad news if an indicator showed an increase, for example?

A total of 21 indicators are proposed in CAG's final report. The final balance of topics and indicators is shown in table 4. The sustainable communities section has been given higher priority in this set of indicators than in the national sustainable development set. This no doubt reflects the very important impact that tourism has on quality of life, both as an important contributor to general welfare and also as a potential source of both improved facilities and disturbance for local communities.

Table 5 lists the 21 recommended indicators. Only 12 of these are 'OK' in the sense that we have a back run of data and can continue each time series at regular intervals in future (these are charted in DCMS, forthcoming). Many of the suggested indicators are not amenable for publication at this stage because:

- (1) Data is expected to become available in the near future. (Definite in future.)
- (2) Data could be made available in future if existing data collection is adapted to suit the needs of this indicator set. (Possible in future.)

**Table 4**  
**The Spread of the Final Set of Indicators in the CAG Report**

<i>Quality of Life Counts</i> Headings	Number of Topics		
	DETR	Final Set	Number of indicators
Sending the Right Signals	7	0	0
A Sustainable Economy	31	3	4
Building Sustainable Communities	30	6	11
Managing the Environment & Resources	32	4	6
International Co-operation & Development	6	0	0



**Table 5**  
**Final Set Of Indicators Recommended By CAG**

TOPIC	INDICATOR	STATUS
<b>A Sustainable Economy</b>		
Industry profitability / competitiveness	1. Ratio of holidays taken by UK residents in the UK or overseas	OK
	2. VAT registrations and de-registrations of tourism related businesses	OK
Industry investment	3. Highest qualifications held by workers in tourism-related industries compared with average of all employment sectors	OK
Quality and quantity of jobs filled by local people	4. Average hourly earnings in tourism as percent of national average	OK
<b>Building Sustainable Communities</b>		
Quality & quantity of tourism provision	5. Consumer satisfaction with tourism facilities in the UK	Possible in future
	6. Number (proportion) of accommodation registered with harmonised rating scheme	Definite in future
	7. Number of blue flag beach awards in the UK	OK
Access to tourism for all	8. Percentage of elderly and low income residents not taking a holiday	OK
	9. Number of accommodations recorded as accessible to disabled people	OK
Traffic congestion resulting from tourist travel	10. Percent UK residents using public transport to reach holiday destinations in the UK	OK
	11. Percent of all leisure trips taken by UK residents within the UK using public transport (excluding planes)	OK
	12. Traffic congestion caused by visitor journeys	Possible in future
Moss of open space to tourism developments & supporting infrastructure	13. Extent of tourism developments which take place on green field sites and on previously developed land and buildings	Possible in future
Local management plans and their Conclusion in local land use plans and Transport strategies	14. Number of local transport plans with visitor management section	Possible in future
Stakeholder involvement in tourism decisions	15. Number of tourism forums including both residents & business as a percent of all districts	Possible in future
<b>Managing the Environment and Resources</b>		
Contribution to climate change of travel to and within tourist destinations	16. Carbon dioxide by UK resident's tourist travel in the UK	OK
	17. Carbon dioxide emissions by UK resident's travel overseas	OK
Contribution to climate change of energy consumption by tourist facilities	18. Energy consumption and carbon dioxide emissions by hotels, restaurants, sport and entertainment	OK
Conservation, enhancement and damage to habitats and landscape	19. Number of (large scale) tourism developments on nationally designated sites	Possible in future
	20. Damage and disturbance to SSSIs as a result of recreational activities	Possible in future
Sustainable practices by tourism facilities	21. Number tourist businesses participating in recognised environmental schemes	Possible in future

**VI. POSTSCRIPT: THE TRANSFORMATION INTO 'WISE GROWTH' INDICATORS FOR ENGLAND**

As mentioned above, the Government has

given the new tourism body for England, the English Tourism Council lead responsibility for developing sustainable tourism in the domestic market. (The three prime objectives of the ETC are quality, competitiveness and wise growth). The Chairman of the ETC is required to report annually,

**Table 6  
Suggested Set of National Wise Growth Indicators**

<b>SATISFYING FOR VISITORS</b>		
1	Visitor satisfaction	N/a
2	Range of qualifications held by workers in tourism-related industries compared with the average for all workers	OK
3	Percentage of the workforce in the tourism sector participating in professional training	Possible
4	Percentage of accommodation registered with ETC, AA or RAC Quality Assurance Scheme	OK
5	Percentage of accommodation registered as meeting National Accessible Scheme criteria for disabled people	OK
<b>OVERALL HEALTH OF THE INDUSTRY</b>		
6	Net domestic holiday spend	OK
7	Spend per person per night	Possible
8	Composition of tourism sector by business turnover and number of employees	Possible
9	Net change in the VAT registrations and de-registrations of tourism related businesses, compared to other industries	OK
10	Contribution of holiday tourism to GDP (measured as the ratio of English holiday tourism spend to total UK GDP)	OK
11	Total spend per employee in the tourism sector	OK
12	Low season occupancy vs high season occupancy	OK
13	Low season spend vs high season spend	OK
<b>BENEFICIAL TO THE LOCAL COMMUNITY</b>		
14	Percentage of the total workforce employed in the tourism sector	OK
15	Ratio of average hourly earnings in tourism vs the average national hourly wage	OK
16	Percentage of English adults not taking a holiday	Possible
17	Percentage of destinations with a community planning or LA21 strategy	N/a
18	Tourism spend by region	OK
19	Number of tourism related planning applications accepted and declined	N/a
20	Audit of community perceptions of tourism	N/a
<b>PROTECTING AND ENHANCING THE ENVIRONMENT</b>		
21	Number of English beaches with a Blue Flag and a Seaside Award	OK
22	Percentage of U K residents using public transport for holiday trips	OK
23	Number of tourist destinations with local transport plans integrating visitor management	N/a
24	Carbon dioxide savings made by the tourism industry	OK
25	Tourism's contribution to the protection of built and natural assets	Possible
26	Number of businesses signed up to recognised environmental management schemes	Possible
27	Biodiversity indicator of Natural Areas	N/a

Key: OK - baseline data currently available; Possible - data available in next 12 months; N/a - data not available at present.

to the Secretary of State for Culture, Media and Sport, on progress in achieving more sustainable forms of tourism ('wise growth'). So, although the Government is committed to developing a series of national statistical indicators to help measure progress in achieving sustainable tourism, it is ETC that is being asked to take ownership of the indicators.

The ETC has reviewed the CAG recommendations and come up with a revised list (Table 6), on which it is now consulting. ETC has reverted to the VICE structure discussed above because this is more familiar, to its audience, than is the sustainable development terminology. Details of the final set will be published (ETC, forthcoming). The ETC indicators are for England only. Tourism was one of the functions devolved to administrations in Scotland Wales and Northern Ireland during 1999 (up to then the national tourist boards were anyway funded by the respective Government department, such as the Scottish Office, responsible for certain functions). The Government's strategy for tourism is therefore a strategy for England, but one that has clear implications for Scotland, Wales and Northern Ireland. How these implications are resolved in terms of indicators of sustainable tourism has yet to be considered.

## **VII. CONCLUDING REMARKS**

An indicator is there to indicate, it does not tell the whole story. A good set of indicators will pick out a few measures that crystallise key trends, but even this can only tell a partial story. Following widespread consultation, DCMS and CAG arrived at a set of 21

indicators that we believe sum up the key sustainable tourism issues for the UK. Many other important topics have inevitably been excluded. We have seen that there is also a further phase to work through. The English Tourism Council is taking ownership of a set of 'wise growth' indicators for England, on which the Council is to report annually to the Secretary of State for Culture, Media and Sport.

As anticipated, national data are not available for many of the recommended indicators, but most should become feasible in future if relevant organisations can be persuaded to modify their data collection or analysis. In this and other ways, the set of sustainable tourism indicators will no doubt evolve over time.

The tourism strategy also recognises the important contribution to tourism made by local authorities. The strategy commits the Government to supplement the series of national statistical indicators with published guidance on the development of compatible local indicators for sustainable tourism. This guidance is being prepared in association with the British Resorts Association (see the paper by David James). It may be possible in future to aggregate data collected locally, to agreed quality standards, to arrive at national indicators. But this will not, of course, be possible until there has been a wide take up of the local indicator set.

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