

# Foreword

Now into its third year, the 2004 Sustainable Guernsey – monitoring Social, Economic & Environmental Trends report continues to evolve. This year's document takes a further step forward in trying to understand the changing nature of the Island's economy, environment and social well-being.

As well as reducing the number of data gaps, the report also starts to provide an insight into the connections between the various strands of sustainable development and acts as a gauge to track the sustainability of the Island.

With sustainable development becoming increasingly mainstream in many governments around the World and a feature of business planning, it is timely that the Policy Council commends this report to the States. The ability to monitor the Island's sustainability is a key element in helping the States to evaluate the impact of policies and to ensure that new programmes and initiatives are based on sound statistical evidence.

As the new-style Government becomes firmly established, Sustainable Guernsey is one aspect of corporate information which will become increasingly important especially in helping with the planning and evaluation of policy initiatives. The link between this document and the States Policy and Resource Plan will grow and strengthen over time.

Indeed this year there will be a separate States debate on the Sustainable Guernsey report. The matters raised during this debate in July, can then be taken into account in preparing the 2004 Policy and Resource Plan which will be considered by the States alongside the budget report in December 2004. In this way the States can derive maximum benefit from the policy and resource planning process, using the results from the broad monitoring to help inform policy development.

The Policy Council wishes to express its thanks to all of the States Departments and representatives of Non-Governmental Organisations for their contributions to the development of the indicators and production of this report.

Deputy L C Morgan  
Chief Minister

This report is dedicated to the memory of Mike Nelson who sadly passed away on 20th April 2004. As a valued member of the States Policy & Research Unit responsible for producing this report, Mike firmly believed in sustainable development. His passion for the natural environment and appreciation of its connection with the community and economy contributed to the development of Sustainable Guernsey.

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# Executive Summary

The tables on the following two pages are intended to provide an overview of all indicators together and where possible a broad measure of sustainability. The gauges used in the table are based on the time series data which underpins the indicators and reflects trends. As the monitoring system develops further and trends data become available the number of gauges containing question marks will reduce.

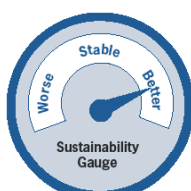
As a broad indication of the Island's sustainability, out of the remaining 47 indicators represented by the gauges, only 12 are measured in the 'worse' category. The remainder reflect the level of sustainability as 'stable' and 'better' showing that almost three quarters of those indicators measured by a gauge suggest a relatively positive position.

It must be borne in mind that the three categories contained in the sustainability gauge are a broad indication of trends and not a detailed analysis of each indicator. It is only intended as a rough guide of how the Island is faring.

## Summary of Indicator Progress



**Don't Know - 8**



























**Better - 17**






















**Stable - 18**



**Worse - 12**

Headline Indicator		Strategic Indicators			
Population	Population Trends		Immigration and Emigration		
Health	Overall Life Expectancy		Cost of Health Care		Self Perceived Health Status & Sense of Well-being 
Educational Achievement	Literacy and Numeracy		Education of Young People		Post 16 Participation Rates  Adult Education (19 Year Olds and Over) 
Community Participation	Voting in Local Elections		Involvement in Local Voluntary Groups		
Housing	Quality of Housing		Use of Previously Developed Land for House Building		Affordability of Housing 
Crime	Crime Levels		Public Fear of Crime		
Economic Performance	National Income		Island Inflation		Average Earnings 
Energy Consumption	Amount of Energy Consumed		Per Capita Electricity Consumption		Energy from Renewable Sources 
International Transport	Air Transport		Sea Transport		

Headline Indicator		Strategic Indicators			
Workforce Development	Workforce Skills		Organisational Commitment		
Biodiversity	Natural Habitats and Key Species		Garden Birds		
Air Quality	Emissions of Greenhouse Gases		Sea Level Rise		Noise Pollution
Water Quality	Water Pollution Incidents		Raw Water Storage Analysis		General Air Quality and Roadside Air Quality
Water Resources	Raw Water Storage		Properties Connected to the Island's Water Supply		Water Treatment Works Compliance
Land Use	Land Use		Land Used for Public Amenity		Potable Water Supplied
Household and Commercial Waste	Household Waste		Commercial Waste		Land Quality
Local Transport	Overall Island Traffic Volumes and Congestion Levels		Access to Public Transport		Materials Recycled
					Modes of Transport
					Service Reservoir Water Quality
					Bathing Water Quality
					Water Distribution Losses
					Annual Water Consumption

# Introduction

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***“This year for the first time, the monitoring report contains a simple sustainability gauge which helps to measure the Island’s sustainability.”***

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Now into its third year, the Sustainable Guernsey — monitoring Social, Economic and Environmental Trends report contains the most comprehensive information to date. This year is the first time all of the 55 Strategic Indicators presented in the report are represented. To promote an understanding of the connectivity which is at the “heart” of sustainable development this year’s report includes an aptly titled ‘connections’ section which is intended to highlight interactions between facets of the economy, community and environment. This also reflects the cross-cutting nature of the indicators.

Other changes to the structure of the report are the inclusion of an executive summary, conclusion, brief snapshot for each of the headline indicators and trends overview.

This year for the first time, the monitoring report contains a simple sustainability gauge which helps to measure the Island’s sustainability. It is hoped that as more time series data becomes available, the gauge can be adopted for all indicators providing an overview of the Island’s progress towards a more sustainable future.

It has been agreed by the States of Guernsey to include the monitoring components of both the Corporate Housing Programme (CHP) and Corporate Anti-Poverty Programme (CAPP). These are also detailed in the report, with the intention of reporting on the programme outcomes as they impact on the Island.

As with the previous years’ monitoring processes, it is not the purpose of this report to provide detailed statistics, but rather indicators that are strategic in nature, providing ‘signposts’ that reflect changes in social, economic and environmental conditions. The report marks the continuation of a process designed to measure progress towards Sustainable Development and is reflected by programmes contained in the “2003 Policy and Resource Plan”. The Policy and Resource Plan describes the Island’s Sustainable Development Strategy, while this report monitors the Island’s progress against each of the 17 Headline and 55 Strategic Indicators.

In keeping with last year’s approach, a supporting document — “Guernsey Facts and Figures” pocket guide containing further statistical information has also been published. This provides key statistics covering the Island’s social, economic and environmental character.

Over the last two years the sustainable development initiatives, whether in the public sector or private sector, have become increasingly embedded into the way organisations operate. For example, last year the UK Government via the Office of the Deputy Prime Minister launched: “Sustainable Communities: Building for the Future” which includes a package of measures to regenerate both urban and rural areas in the English regions. £22 billion is being invested over the next three years in order to improve parks, public spaces, housing and the modernisation of the planning system.

In terms of practically developing sustainability initiatives, the South West of England region has over the last year supported a number of forward thinking programmes.

Examples include:

- The development of wave powered energy off Cornwall's Atlantic coast, connecting wave power machines to the national grid. Funding for an investigation into the viability of a 'Wave Hub' which is a connector for the transfer of electricity between the turbines and national grid.
- Establishment of a sustainable construction centre in Somerset providing advice and training courses in building design, materials and procurement. The new centre is intended to be a 'leading edge' provider for sustainable housing construction.
- £300million Science Park being developed near Bristol based on the models located at Warwick, Cambridge and Oxford. The park will contain an innovation centre dedicated to growing science-based businesses including spin outs from local universities such as Bristol and Bath.

Small Island jurisdictions are taking a lead in the drive towards mainstreaming sustainable development with initiatives and policies which connect the economy community and environment. Last year, Guernsey was represented at a conference on measuring sustainable development organised by the Maltese Government on behalf of the Small Islands Developing States Network (SIDSnet). This network was established by the United Nations and assists Island states with adopting sustainable development strategies. The monitoring process used in Guernsey was held up as a comprehensive and especially forward looking planning tool.

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***“Small Island jurisdictions are taking a lead in the drive towards mainstreaming sustainable development with initiatives and policies which connect the economy, community and environment.”***

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# Introduction

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***“the Island’s sustainability is important for its future success and the ability to monitor this is essential for planning purposes in both the developed and developing world.”***

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Although Guernsey is not a member of SIDSnet and would not be regarded as a “developing state” the Island’s sustainability is important for its future success and the ability to monitor this is essential for planning purposes in both the developed and developing world.

*“We remain “small islands with big issues”. We need benchmarks: a focus for effective coordination. We need to be able to clearly identify successes and failures, because the next time we review progress we must be able to say we made a difference.”* Chairman of the Alliance of Small Island States, 1999, UN conference on Sustainable Development, New York, USA.



### Snapshot

- Guernsey's population has risen by 16% over the last thirty years, an average of around 300 people a year.

### Trends

Guernsey's population increase is primarily due to increased life expectancy, meaning that Island residents, in particular women, are living longer. Women in the last census accounted for 51.3% of the Island's population, whilst men accounted for 48.7%.

The age distribution of the population shows a significant 'bulge' in the 30-39 and 40-49 age groups. This is a consequence of the 'baby boom' between the years 1947 and 1972.

In the five years from 1991 to 1996, net migration to the Island actually fell by 634. In the five years from 1996 to 2001, net migration rose by 647. Thus, over the previous two intercensal periods of ten years, net migration has in real terms accounted for an increase of 13 people onto the Island.

### Connections

Guernsey's population size has connections in one form or another with almost all other indicators, including the environmental indicators such as land use, air quality and water quality, as well as energy consumption, and even health. In particular population size has a strong bearing upon the Island's **economic performance**.



**see page 81**

*"Migrants bring skills and talents that complement those of the existing population. Self selected, they show initiative, flexibility, a willingness to take risks, a strong desire to make good, and to contribute. Research has shown the positive contribution migrants can make to the economy, leading to job creation and **economic growth**."*  
Managing Gateways, Institute for Public Policy Research, 2000.



**see page 81**

The link between population growth and environmental impact seems obvious at first glance: more people consume more resources, damage more of the earth and generate more waste. This simple reasoning is true as far as it goes, but the larger picture is more complex especially in global terms.

*"A very small proportion of the population consumes the majority of the world's resources. The richest fifth consumes 86% of all goods and services and produces 53% of all carbon dioxide emissions, while the poorest fifth consumes 1.3% of goods and services and accounts for 3% of CO<sub>2</sub> output." United Nations Development Programme, Human Development Report, 1998.*

# Population

## Connections, Policy Objectives and What is Measured

### Connections

see page 97



**Energy Consumption** – Population levels have a direct and measurable connection to per capita **energy consumption**:

*“The reduction of population has been a driving force in international events and negotiations regarding sustainable development. But population and energy consumption are two sides of the same coin, a reduction of population growth in developing countries and a reduction of energy consumption in developed countries are both needed to achieve sustainability.”* Consumption: the other side of population, Matya, F. J., et al, Earth Council, 2002.

Guernsey’s demographic bulge suggests future connections between an ageing population and the Island’s ability to provide the necessary health and social services required.

### Policy Objectives

**To maintain population growth to as low a level as possible, within the primary interests of the Island’s local residents. The Housing Laws reflect the objective that the vast majority of jobs on the Island should be filled by local residents. However, there will still be a need to employ labour from outside the Island in order to supplement the Island’s labour force in specialist areas.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Appendix 1 – Corporate Policies Section.

### What is Measured

The resident population of the Island is measured using the Island’s Census figures, which are then presented by parish population, age distribution, and gender. The natural increase of the population is measured as the difference between births and deaths.

Net migration is the balance of the number of people moving to (immigration) and away (emigration) from the Island.

## Indicator 1: Population Trends

### Indicator Measure

#### The number of people resident in the Island by total, parish, age and gender and the number of births and deaths

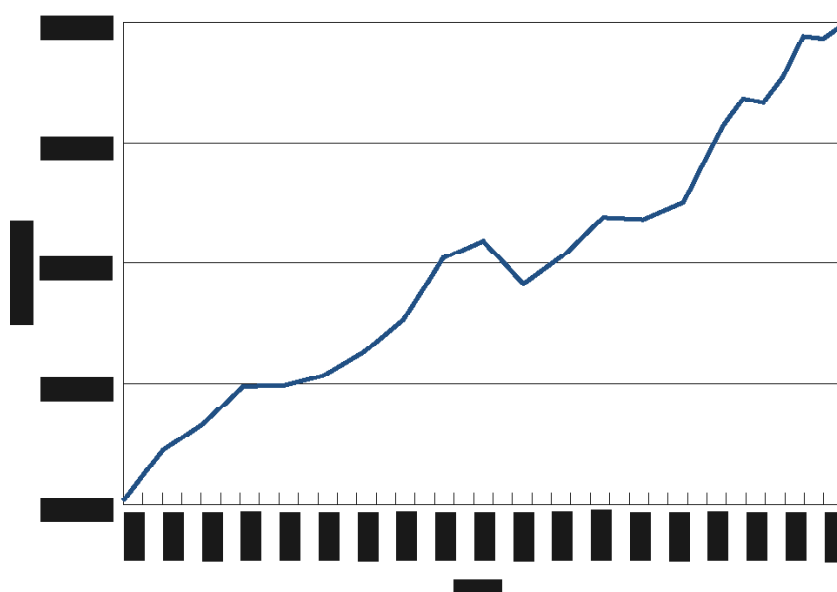
Every 10 years since 1831, and every five years since 1971, the Island has set aside one day for the Census - a count of all people and households. It is the most complete source of information about the Island's population. The latest Census was held on Sunday 29 April 2001. It is the only survey which provides a detailed picture of the entire population and that is why the Census is so important as a policy planning tool. It is unique because it covers everyone at the same time and asks the same core questions. The information the Census provides helps States Departments, Businesses and other organisations to target their resources more effectively and to plan housing, education, health and transport services for years to come.

### Indicator Data

#### Population levels

59,807 people live on the Islands of Guernsey, Herm and Jethou according to the results of the latest Census, see **Figure 1**. This is the highest population total ever recorded in the Island, and is 1,126 more than in the previous Census held in 1996. Population growth has been rapid since the 1970s, at an average rate of just under 300 people a year over the 30 year period from 1971 to 2001.

**Figure 1: Guernsey's Population - 1821 to 2001**



Source: Guernsey Census: Policy Council, Policy and Research Unit

# Population

## Indicator 1: Population Trends

### Indicator Data

#### Resident population

The resident population levels shown in **Table 1** show the number of Islanders who were present on the day of the Census. People are absent from the Island because they are on holiday, on business, at school or university in the UK or are absent for medical treatment in the UK. Normally they would be regarded as resident if they spend more than 10 days working on the Island.

Table 1: Guernsey's Population - 1976 to 2001

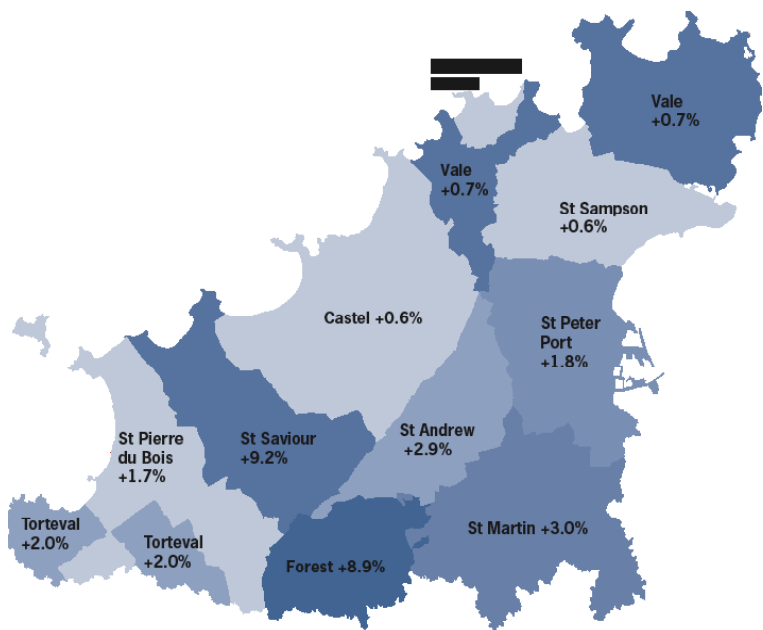
		1976	1981	1986	1991	1996	2001
a	Residents Present	51,447	51,407	53,170	56,149	55,677	56,223
b	Residents Absent	2,190	1,906	2,312	2,718	3,004	3,584
a+b	Resident population	53,637	53,313	55,482	58,867	58,681	59,807

Source: Guernsey Census: Policy Council, Policy and Research Unit

#### Population of Guernsey's parishes

The percentage changed in the Island's population within the Island's parishes between 1996 and 2001 is shown in **Figure 2**. There is a distinctive split between the urban (e.g. St Sampson and St Peter Port) and rural parishes (e.g. Torteval, St Saviour and St Pierre du Bois).

Figure 2: Population of Guernsey's Parishes - Percentage Change from 1996 to 2001



Source: Guernsey Census: Policy Council, Policy and Research Unit

## Indicator 1: Population Trends

## Indicator Data

**Table 2** shows that all parishes in Guernsey saw their population increase in the five years between 1996 and 2001. The biggest increase in percentage terms was seen in St Saviour (+9.2%) and Forest (+8.9%) whilst the biggest increase in terms of numbers was St. Peter Port (+294), St Saviour (+227) and St Martin (+185).

**Table 2: Population of Guernsey's Parishes**

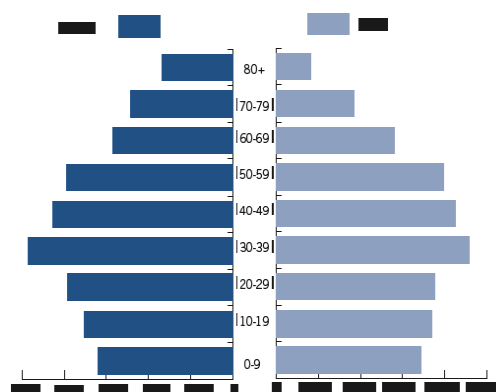
	1971	1976	1981	1986	1991	1996	2001
Castel	6,317	7,309	7,727	8,260	9,068	8,922	8,975
Forest	1,460	1,383	1,288	1,293	1,386	1,423	1,549
St Andrew	2,232	2,295	2,230	2,281	2,357	2,342	2,409
St Martin	6,161	6,072	5,842	5,876	6,082	6,082	6,267
St Peter Port	16,303	16,279	15,587	16,085	16,648	16,194	16,488
St Pierre du Bois	1,829	1,934	2,018	2,057	2,242	2,151	2,188
St Sampson	6,534	6,802	6,947	7,475	8,045	8,540	8,592
St Saviour	2,116	2,321	2,432	2,404	2,419	2,469	2,696
Torteval	841	914	881	926	976	954	973
Vale	7,558	8,251	8,316	8,764	9,530	9,504	9,573
Herm and Jethou	107	77	45	61	114	100	97
<b>Total</b>	<b>51,458</b>	<b>53,637</b>	<b>53,313</b>	<b>55,482</b>	<b>58,867</b>	<b>58,681</b>	<b>59,807</b>

Source: Guernsey Census: Policy Council, Policy and Research Unit

### Age distribution

The age structure of the population reflects changes in birth and death rates as well as increases in life expectancy and changes arising from migration. **Figure 3** shows the distribution of the population in 2001 as represented in five-year age bands. It shows a bulge in the population, particularly in the 30 - 39 and 40 - 49 age groups. This is a consequence of the “baby boom” between the years 1947 and 1972.

**Figure 3: Age Distribution of Guernsey's Population - 2001 Census**



Source: Guernsey Census: Policy Council, Policy and Research Unit

# Population

## Indicator 1: Population Trends

### Indicator Data

**Table 3** shows that in the 2001 Census there are 1,531 more females than males. Meaning that males account for 48.7% of the population and females accounting for 51.3%.

**Table 3: Age and Gender Breakdown of Guernsey's Population - 2001 Census**

Numbers				Percentage of Age Group		Percentage of Age Group	
Age Range	Male	Female	Total	Male %	Female %	Male %	Female %
0-9	3,428	3,200	6,628	51.7	48.3	11.8	10.4
10-19	3,697	3,519	7,216	51.2	48.8	12.7	11.4
20-29	3,761	3,913	7,674	49.0	51.0	12.9	12.8
30-39	4,571	4,854	9,425	48.5	51.5	15.7	15.8
40-49	4,254	4,280	8,534	49.8	50.2	14.6	14.0
50-59	3,959	3,952	7,911	50.0	50.0	13.6	12.9
60-69	2,796	2,848	5,644	49.5	50.5	9.6	9.3
70-79	1,848	2,421	4,269	43.3	56.7	6.3	7.9
80+	824	1,682	2,506	32.9	67.1	2.8	5.5
<b>Total</b>	29,138	30,669	59,807	48.7	51.3	100.0	100.0

*Source: Guernsey Census: Policy Council, Policy and Research Unit*

This difference is mostly due to females living longer than males; whilst there were 500 females per 1,000 of the population aged between 50-59, this figure increased to 505 per 1,000 in the 60-69 range and 567 per 1,000 in the 70-79 band. This figure rose to 671 females over the age of 80 per 1,000. There were fewer children in the 0-9 age band compared to the 1996 Census highlighting a falling birth rate.

### Indicator Data

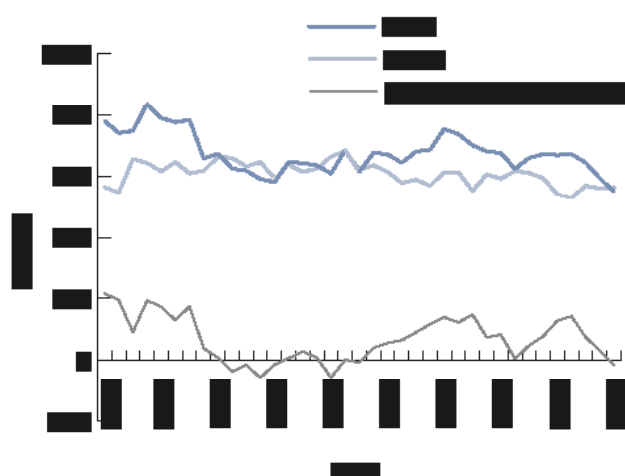
#### Births, deaths and the natural increase

The total population of the Island is a function of the number of births minus the number of deaths (the natural increase), and the difference between immigration and emigration (net migration)

Births, deaths and the natural increase are plotted in **Figure 4** where the “baby boom” in the late 1960s and early 1970s followed by a decline in the number of births in the 1970s and 1980s can be discerned.

Recently the Island’s population has seen a natural increase that peaked at 143 in 1999, this has subsequently been declining due to a fall in birth rate figures. The natural increase can become a natural “decrease” at times when deaths have exceeded births - this has happened in 1975, 1977, 1982 and 1983.

**Figure 4: Births, Deaths and Natural Increase (Decrease)**



Source: Health and Social Services Department, Public Health and Strategy

Guernsey’s total population is growing; in the last thirty years it has grown at a rate of just under 300 people a year. The Island has more absent residents than at any time before, these include people at school and university. All parishes saw their population increase; the biggest rises in terms of percentage were St Saviour (+9.2%) and Forest (+8.9%). The age distribution shows that women are living longer than men and is reflected in the fact that 51.3% of the population are female. Since the natural increase reached a peak of 143 in 1999 it has been steadily declining due to a fall in birth rate.

### Indicator Analysis



# Population

## Indicator 2: Immigration and Emigration

### Indicator Measure

#### **Net migration, i.e. the difference between immigration and emigration and the number of housing licenses issued**

Net migration is the difference between immigration and emigration. When the natural increase in the population is static or falling, then the only increase in the population can come from those people moving to the Island (immigration). In recent times those coming to the Island have been almost equalled by those leaving (emigration).

As Guernsey is an Island with a finite amount of space available to house its population it is important that population growth is monitored and that methods are available to control the growth in the population.

### Indicator Data

**Table 4** and **Figure 5** show that immigration over the last intercensal period has been high: indeed it is the second highest period within the last quarter of a century. At the same time emigration has been higher than expected, especially when compared to the intercensal period of 1986 to 1991 when there was high economic growth.

The result of this is that in the five years from 1991 to 1996, net migration to the Island actually fell by 634. In the five years from 1996 to 2001, net migration has risen by 647. Thus over the previous two intercensal periods, net migration has been a total of 13 people.

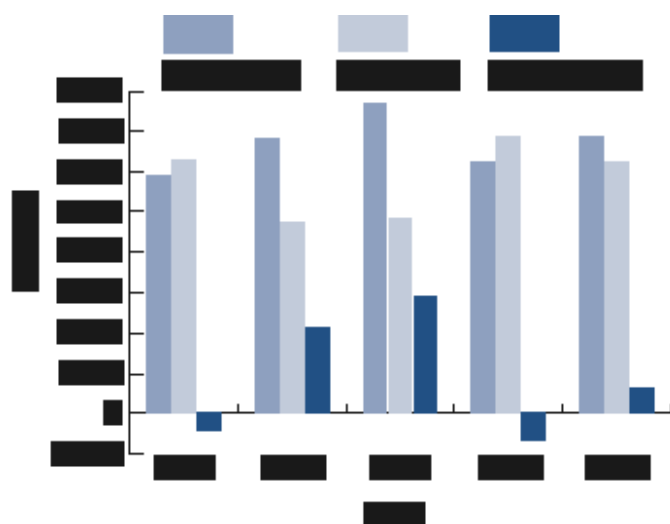
**Table 4: Immigration and Emigration**

Intercensal Period	Census Population	Five Year Difference in Population	Natural Increase (births minus deaths)	Net Migration
<b>1961 to 1966</b>	48,005	2,937	1,314	1,623
<b>1966 to 1971</b>	51,458	3,453	874	2,579
<b>1971 to 1976</b>	53,637	2,179	438	1,741
<b>1976 to 1981</b>	53,313	-324	98	-422
<b>1981 to 1986</b>	55,482	2,169	31	2,138
<b>1986 to 1991</b>	58,867	3,385	484	2,901
<b>1991 to 1996</b>	58,681	-186	448	-634
<b>1996 to 2001</b>	59,807	1,126	479	647

Source: Guernsey Census, Policy Council, Policy and Research Unit



Figure 5: Intercensal Immigration, Emigration and Net Migration



Source: Guernsey Census, Policy Council, Policy and Research Unit

### Housing licences

Housing licences are administered by the Housing Department, under the Housing (Control of Occupation) (Guernsey) Laws.

Guernsey has been unable to provide all the employees it needs in specialist occupations such as Health and Education. Essential housing licences are issued for these posts subject to certain criteria and are generally for limited periods of time so that the holder does not reside in Guernsey for more than five years.

Housing licences are also issued for compassionate reasons to people with strong connections with the Island. Only essential and compassionate licences enable the licence holder to occupy a separate dwelling. En Famille and Short Term licences do not enable the holder to occupy a separate dwelling, but are for accommodation in an existing household.

# Population

## Indicator 2: Immigration and Emigration

### Indicator Data

An En Famille licence is issued where a local resident wishes to accommodate a companion who is not a "Guernsey person". Short Term licences are for periods of up to 9 months or 3 years and are issued to recognise manpower shortages in various industries, principally tourism and horticulture. These licences are restricted to single persons who occupy lodgings or staff accommodation. **Table 5** shows the number of "live" housing licenses that were valid at 31 March in 1999, 2000, 2001, 2002 and 2003. The effectiveness of the policy of limiting the duration of licences, so that the holder does not become a permanent resident, is indicated by the small changes in the number of live licences year on year as compared with the numbers of new licences issued.

**Table 5: "Live" Housing Licences**

	1999	2000	2001	2002	2003	Change 1999 to 2003
<b>Essential Employment</b>						
Finance Sector	337	316	321	318	339	2
Tourism/Catering	133	140	148	155	163	30
Education	114	119	133	144	159	45
Health	146	166	162	187	213	67
General Public Services	50	51	62	87	88	38
General Industry	168	174	180	188	200	32
<b>Total</b>	<b>948</b>	<b>966</b>	<b>1,006</b>	<b>1,079</b>	<b>1,162</b>	<b>214</b>
<b>Other Licences (Compassionate)</b>						
Marriage Breakdown	159	173	169	170	168	9
Other Compassionate	413	388	380	392	401	-12
<b>Total</b>	<b>572</b>	<b>561</b>	<b>549</b>	<b>562</b>	<b>569</b>	<b>-3</b>
<b>Other Licences ("En Famille")</b>						
"En Famille"	968	981	931	955	1,009	41
Nursing Homes	55	50	40	38	37	-18
<b>Total</b>	<b>1,023</b>	<b>1,031</b>	<b>971</b>	<b>993</b>	<b>1,046</b>	<b>23</b>
<b>Short-Term Licences</b>						
Tourism	620	526	503	551	510	-110
Horticulture	269	260	269	272	259	-10
Other Industries	258	286	445	609	750	492
Not Employment Related	12	15	14	12	10	-2
<b>Total</b>	<b>1,159</b>	<b>1,087</b>	<b>1,231</b>	<b>1,444</b>	<b>1,529</b>	<b>370</b>
<b>Grand Total</b>	<b>3,702</b>	<b>3,645</b>	<b>3,757</b>	<b>4,078</b>	<b>4,306</b>	<b>604</b>

Source: Housing Department

## Indicator 2: Immigration and Emigration

### Indicator Analysis

Over the last ten years immigration and emigration have almost cancelled themselves out, with net migration being 13 for the entire ten-year period.

Guernsey has been unable to provide all the employees it requires, especially in specialist occupations such as Health and Education. Because of this “Essential” housing licences are issued for certain posts. These are generally for limited periods of time. Other licences include “Compassionate” for people with strong connections to the Island; “En Famille” for local residents to accommodate a non-Guernsey person and “Short Term” for industries such as tourism, horticulture and construction to recognise manpower shortages. There has been small change in the number of live licences since 1999.



## References and Further Reading

### Further Reading

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### Organisations

#### **Policy Council**

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### Snapshot

- Life expectancy on the Island is rising by around one year in every five.
- Women have a greater life expectancy than men by about five years, and suffer less from circulatory and cancer deaths.
- Nearly 33% of islanders claim to suffer from some pain and discomfort.

### Trends

Life expectancy at birth is currently calculated every five years around Guernsey Census data. Between the 1996 and 2001 Census, life expectancy at birth for males increased from 75.9 to 77.5 years, and from 80.6 to 82 years for females.

Guernsey now has a higher life expectancy than the UK and several other European countries, and is roughly equivalent to that of Sweden. Most premature deaths are due to cancer and circulatory disease. Each year between 1999 and 2002, there were 900 “potential years of life lost” due to premature deaths attributed to cancers, 650 to circulatory disease and 270 to accidents, injuries and suicides.

Since 1995 there has been a 30% reduction in premature deaths amongst males from Acute Myocardial Infarction (AMI), and a 17% reduction amongst females; a 23% fall in deaths amongst males attributable to all types of cancer and a 33% fall for women.

Total health expenditure as a proportion of GDP has risen from 7.2% in 1996 to 7.9% in 2003. Recent increases in health care spending in Guernsey and Jersey means that this is now some 20-25% higher than public and private health spending in the UK and roughly equivalent to France.

Since 1998 there are less self reported problems by Guernsey residents in all of the “Euroqol 5D” indicators in the Healthy Lifestyle Survey. Anxiety and depression being the largest drop; down from 38% in 1998 to 27.6% in 2003 but this is still higher than the UK figure of 25%, whilst over 30% of Islanders believe they suffer from some form of pain or discomfort.

# Health

## Connections, Policy Objectives and What is Measured

### Connections

Health and health care have direct connections to the well-being of the community, affecting almost every part of quality of life on the Island. Health of the community is linked to such factors as:

see page 133



**Air Quality** – breathing in polluted air, has a direct effect on the community's health: *"A variety of air pollutants have known or suspected harmful effects on human health and the environment."* (UK National Air Quality Information Archive, 2004) and *"It is estimated that air pollution in the UK brings forward the deaths of between 12,000 and 24,000 people each year."* (Achieving a Better Quality of Life, UK Government Annual Report, 2002).

see page 147



**Water Quality** – access to safe drinking water is crucial to a healthy community. On a global level: *"Improved access to water supply and sanitation can make a major contribution to poverty eradication, health improvements, quality of life..."* (EU 'Water for Life' Initiative, 2002).

see page 63



**Housing** – properties that are found to be substandard or below the minimum requirements expected for decent habitation will have an effect on the health of those living in such conditions. *"The effects of poor housing on health have been recognised in scientific literature for over 15 years... Damp, mould and house dust mites and indoor pollution have all shown to be causally related to increased risk of general respiratory problems, respiratory infections and skin complaints."* (The Survey of Guernsey Living Standards, D Gordon et al, 2002).

see page 9



**Population** – now that people are living longer there will be continuing consequences, with an increase in the older population. This means that adequate provision must be made for the supply of sheltered housing, number of carers, health care support and pensions to name but a few.

The Survey of Guernsey Living Standards 2002 reports that *"there was a clear and unequivocal association between poor health ...and poverty. In general, those in the poorest circumstances experienced four times worse health than those in the most favourable circumstances"*.

## Connections, Policy Objectives and What is Measured

## Connections

In February 2003 the States of Guernsey published a report by the Townsend Centre for International Poverty Research “Anti-Poverty Policies, a Range of Possible Options for Guernsey”. It found that people without health insurance face higher financial risks in the event of an expensive health problem. Additionally, children lacking adequate healthcare can often have problems that reflect upon their ability to perform at school. In response to this report, and earlier studies by the Townsend Centre in Guernsey, the States developed and agreed in November 2003 a Corporate Anti-Poverty Programme (CAPP). This initiative is designed to reduce relative poverty in Guernsey by 50% within 5 years against the benchmark established in 2001-2002.

The CAPP mirrors the Corporate Housing Programme (approved by the States of

## Policy Objectives

**The Health and Social Services Department has set the following policy objectives:**

**to identify health needs and plan services to meet these needs;**

**to promote health, prevent and treat disease and disability, and ensure care is available to all; and**

**to ensure that healthcare is appropriate, effective and of high quality.**

**Policy Plan Reference:**

2003 Policy and Resource Plan, Part 1, Section 4 - Social Projects (see Page 110).

## What is Measured

To determine a society's health, overall life expectancy is measured. The cost of health care is measured using the States Accounts. Expenditure on health care per head of population is compared with other jurisdictions. Death rate by cause is also measured by Public Health and Strategy, in particular, circulatory and cancer deaths, injuries and suicides. Self perceived health status and sense of well-being of the Island's residents is also measured.

Indicator 1: Overall Life Expectancy

Indicator Measure

Life expectancy at Birth in years

The number of years which a newly born baby can expect to live is an internationally recognised indicator of the overall health of a society. There are many factors which determine a healthy society, ranging from environmental factors (air quality, population density, pollution) to lifestyle choices (smoking, diet and weight), as well as the provision of adequate health services such as hospital and community based facilities.

Indicator Data

Life expectancy at Birth

“Life expectancy at birth” is a somewhat complex calculation, using age specific death rates and calculating the probability of someone dying during that age interval.

It is therefore only calculated every five years using the mean age of death at different ages around the Census population data.

The calculated “life expectancy at birth” around the 1996 and 2001 Census is shown in **Table 6**.

Table 6: Life Expectancy at Birth

	1995-1997	1999-2003
Male	75.9	77.5
Female	80.6	82.0

Source: Public Health and Strategy

It will be noted in common with the UK and many other post industrial jurisdictions that “life expectancy” in Guernsey appears to be increasing by about one year in every five years.

Other Health and Social Services Department data indicates that an older population is not necessarily an unhealthier one. Indeed there is a phenomenon known as “compression of morbidity” where although there is much the same quantity of ill health in the population, this occurs in a relatively short period at the end of life.

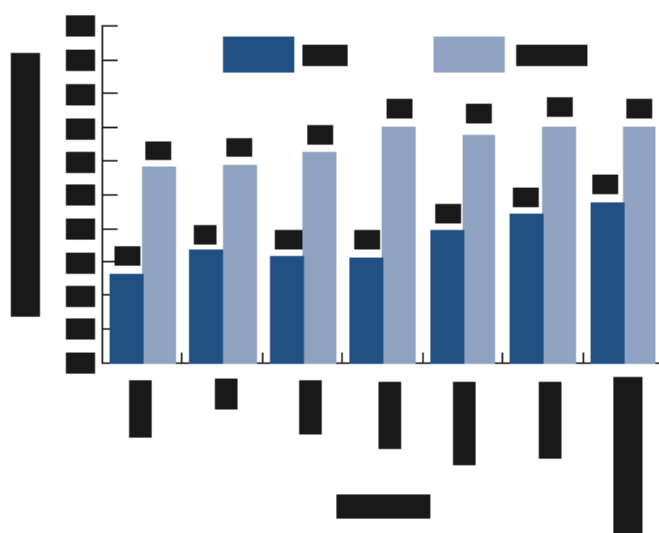
Nonetheless, such trends have important implications for areas such as planning and housing (adequate land and provision for “sheltered housing”), population and health (adequate numbers of “carers” and health care support for an older population) and social security (pension provision, etc).



## Indicator 1: Overall Life Expectancy

## Indicator Data

Figure 6: Life Expectancy at Birth (Years) — Selected Countries 1995 to 2000



Source: Public Health and Strategy

It will be noted in **Figure 6** that Guernsey appears to have a higher life expectancy at birth for both males and females than most European countries, and roughly equivalent to Sweden. This is partially explained by its small size, relative general affluence, and general lack of abject poverty. The medical and other health services are also well developed.

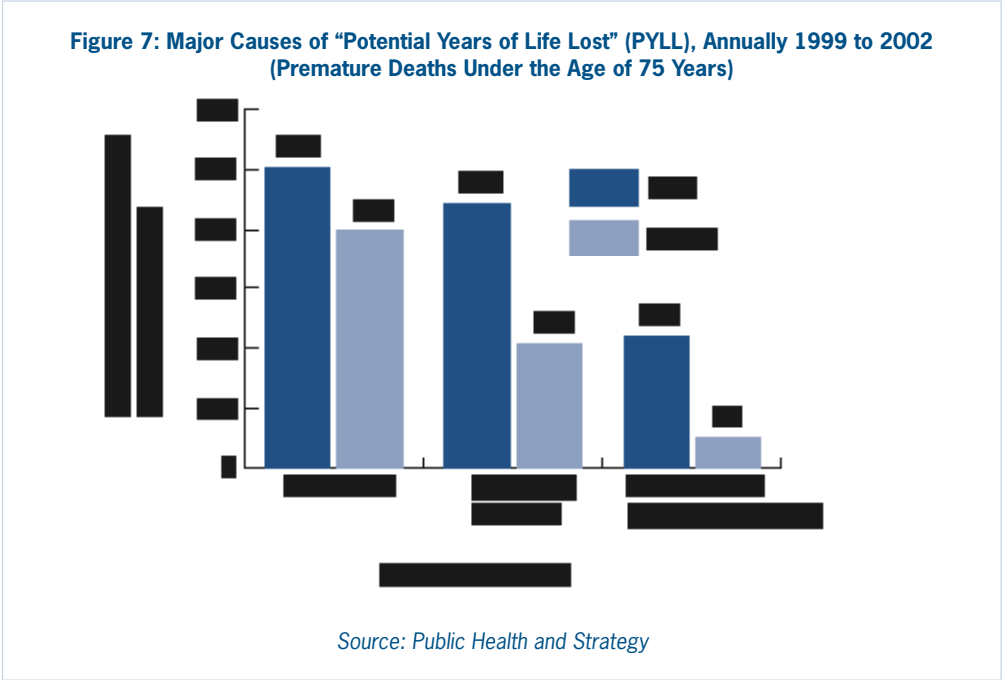
### Potential Years of Life Lost (PYLL)

Although the life expectancy calculations indicate that the average person can expect to live longer, not everyone achieves this. In spite of the substantial progress made in health care over the last 100 years, for a variety of reasons (genetic, environmental, lifestyle and personal), a significant proportion of the population fails to reach assumed life expectancy of around 77 years for men and 82 years for women.

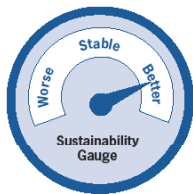
Death before the age of 75 years may be regarded as “potential years of life lost”. Each year between 1999 and 2002, there were over 1800 potential years of life lost amongst Guernsey residents. **Figure 7** shows that most premature deaths were due to cancer (900 PYLL), circulatory deaths (650 PYLL). A lesser proportion are due to accidents and injuries (270 PYLL).

Indicator 1: Overall Life Expectancy

Indicator Data



Indicator Analysis



This indicator shows that mean age of death is increasing by about one in every five years and that life expectancy in Guernsey is higher compared with the UK and roughly equivalent to Sweden. Most premature deaths between 1999 and 2002 were due to cancer and circulatory disease. Generally the Island’s residents are healthier and living longer. This in turn will have an impact on future health care requirements especially as the generation currently aged between 35 and 55 becomes older.

## Indicator 2: Cost of Health Care

## Indicator Measure

**Expenditure of health as a proportion of GDP and per capita**

Spending on health is the largest single area of expenditure by the States of Guernsey. Expressing this expenditure in terms of the percentage of Gross Domestic Product (GDP) is a useful indicator of the level of health care services provided by a country. Expenditure will include both public and private spending. In order to aid comparisons with other countries, absolute spending on health may be expressed in terms of expenditure per head of the population.

## Indicator Data

**Cost of health care**

**Table 7** shows the values for total health expenditure and GDP from 1996 to 2003 reflatd to 2003 values. As GDP has risen, total health expenditure as a proportion remained at around 7.2% until 2001. Since then, it has increased to 7.9% in 2003.

**Table 7: Cost of Health Care**

	Health and Social Services £000's	Social Security £000's	Private (21% of total Health and Social Security) £000's	Total (£000's)	Reflatd Values £000's (2003)	GDP at 2003 Values £000's	Cost as a % of GDP
<b>1996</b>	34,871	16,740	10,838	62,449	79,310	1,102,353	7.2%
<b>1997</b>	39,314	17,953	12,026	69,293	83,845	1,161,325	7.2%
<b>1998</b>	40,563	19,031	12,515	72,109	85,089	1,205,312	7.1%
<b>1999</b>	45,124	20,401	13,760	79,285	91,178	1,297,675	7.0%
<b>2000</b>	49,270	21,286	14,817	85,373	94,764	1,351,913	7.0%
<b>2001</b>	53,469	22,674	15,990	92,133	100,425	1,392,400	7.2%
<b>2002</b>	57,794	23,663	17,106	98,563	102,506	1,351,032	7.6%
<b>2003</b>	64,140	26,410	19,016	109,566	109,566	1,386,060*	7.9%

\*2003 GDP Figures are estimated

Source: Public Health and Strategy

**Expenditure on health care per head of population**

Recent increases in health care spending in Guernsey and Jersey means that this is now some 20-25% higher than public and private health spending in the UK, and roughly equivalent to France. However it is still less than other European countries such as Sweden and less than the OECD average as a whole as shown in **Figure 8**.

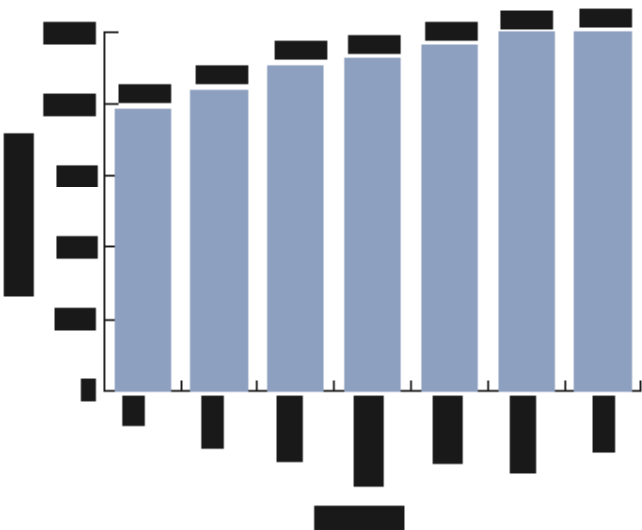
Indicator 2: Cost of Health Care

Indicator Data

Recent research conducted in Jersey suggests that around 12% of this differential with NHS spending is due to diseconomies of scale and of the extra costs of providing healthcare for an island community.

On this basis, relative spending on health in Guernsey (discounted by 12% to £1,226) is somewhat less than the average for all (present) fifteen European Member Countries. If Guernsey wishes to continue to provide healthcare to accepted European standards, then investment at current levels will need to be maintained

Figure 8: Total Health Expenditure (Public and Private) Per Head of Population GB£ — Selected Countries, 2000



Indicator 3: Death Rate by Cause

Indicator Measure

**Major causes of death per 100,000 of population.**

This indicator looks at the commonest causes of death in Guernsey, under the broad headings of cardiovascular disease, cancer and accidents and injuries (including suicides). The primary objective of the Health and Social Services Department is to “ensure the best achievable health for the greatest number of Bailiwick residents at the most affordable cost”.

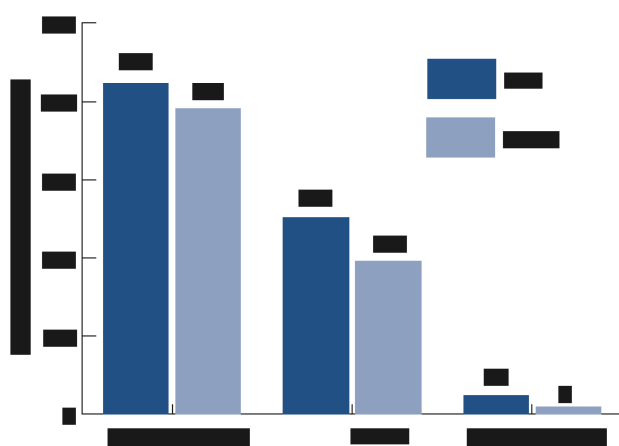
Indicator Data

**Death rate by cause**

Major causes of death per 100,000 of the population is shown below in

**Figure 9.** Circulatory and cancer deaths account for 70% of all deaths with the death rate amongst males being higher than for females. Less common causes of death such as injuries and suicides are responsible for less than 1% of deaths. As a result of the low numbers involved, and wide year to year variation these figures are not statistically valid. However, numbers of cardiovascular and cancer deaths are sufficiently large to be more statistically robust.

Figure 9: Death Rate by Cause, 1999 to 2002



Source: Public Health and Strategy

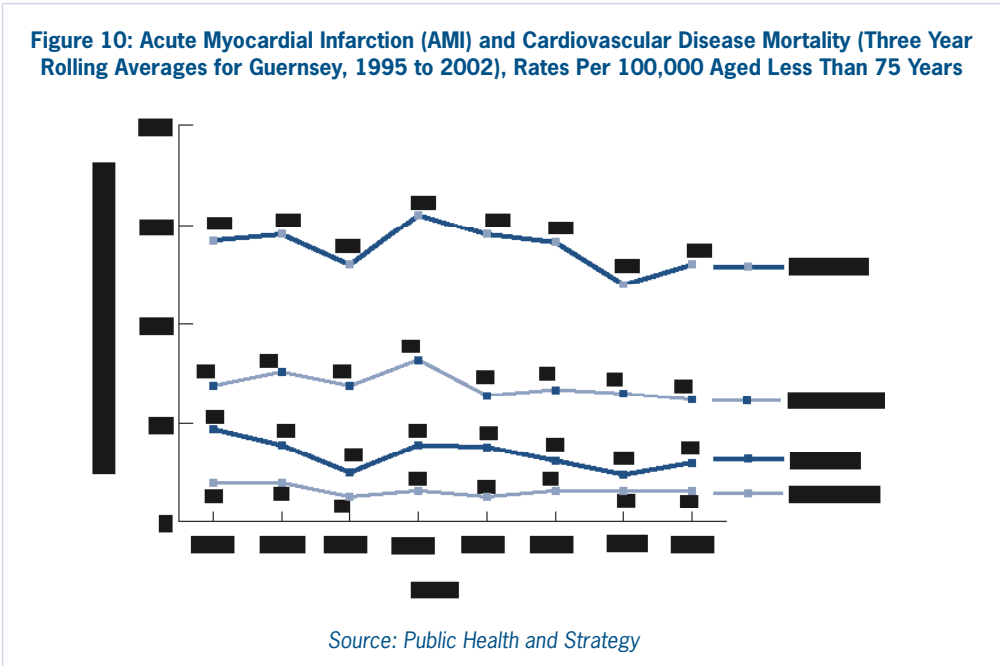
Indicator 3: Death Rate by Cause

Indicator Data

Cardiovascular mortality

Trends in premature cardiovascular mortality (<70 years) are shown in [Figure 10](#). Cardiovascular disease is the single most common cause of death amongst both males and females in Guernsey. Since 1995 there has been a 30% reduction in premature deaths amongst males from Acute Myocardial Infarction (AMI), and a 17% reduction amongst females. This improvement is due to better primary prevention (that is better understanding of risk factors in the community, decreases in smoking levels, healthier food choices and better detection and management of the disease by primary care practitioners) and also improved secondary prevention (i.e. preventative cardiac surgery, better and more rapid treatment of AMI victims, etc).

Despite the impressive falls in deaths from AMI, there has not been so much progress in preventing total cardiovascular mortality, with only a 9% fall amongst males and a 10% fall amongst females.



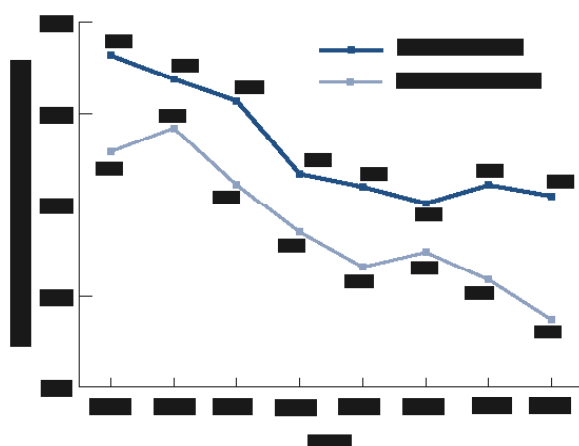
Cancer mortality

Cancer is the second leading cause of death in Guernsey. Cancer incidence (that is the number of new cancers each year) is likely to rise over the coming years, mainly as a result of the growing proportion of older people in Guernsey. However, [Figure 11](#) shows that for men, since 1995 there has been a 23% fall in deaths attributable to all types of cancer, whilst for women the fall has been 33%.

## Indicator 3: Death Rate by Cause

## Indicator Data

**Figure 11: Guernsey "All Cause" Cancer Mortality  
Three Year Rolling Average, 1995 to 2002  
Males and Females: Rates per 100,000 of Population**

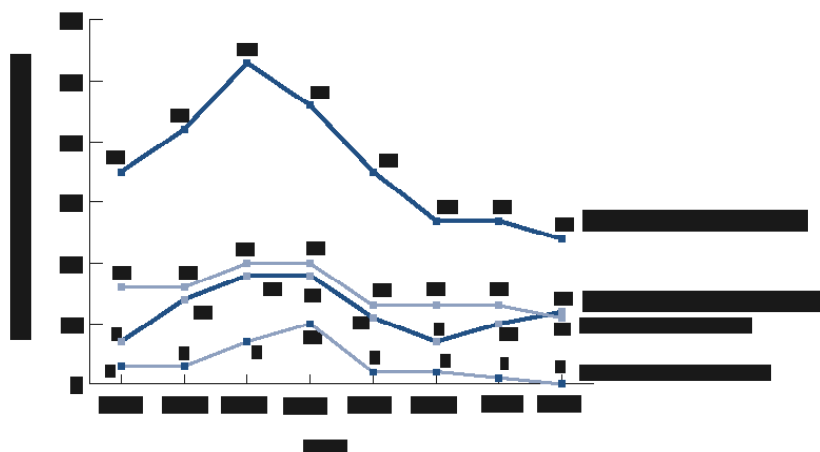


Source: Public Health and Strategy

### Injury and suicide deaths

Although the number of deaths from injuries (and suicides especially) are numerically small as shown in **Figure 12**, they contribute disproportionately to "potential years of life lost", see Strategic Indicator 1. Reducing avoidable suicide deaths will be one of the tasks facing a working party set up by the Department of Health and Social Services to implement the National Service Framework in Mental Health.

**Figure 12: Total Injury and Suicide Mortality  
Three Year Rolling Average, 1995 to 2002  
Males and Females: Rates per 100,000 of population**



Source: Director of Public Health

# Health

## Indicator 3: Death Rate by Cause

### Indicator Analysis



Due to better primary and secondary prevention, there has been a reduction in premature deaths amongst males and females. There has also been a reduction in the number of deaths attributable to cancers but there has not been so much progress in preventing total cardiovascular mortality.



## Indicator 4: Self Perceived Health Status and Sense of Well-being

### Indicator Measure

#### Percentage of respondents reporting a health problem

The perception by an individual of their health status and general sense of well-being can provide a useful indicator of health issues not otherwise measured. In some areas these health issues may be of the “non acute” type and include issues such as anxiety and depression.

### Indicator Data

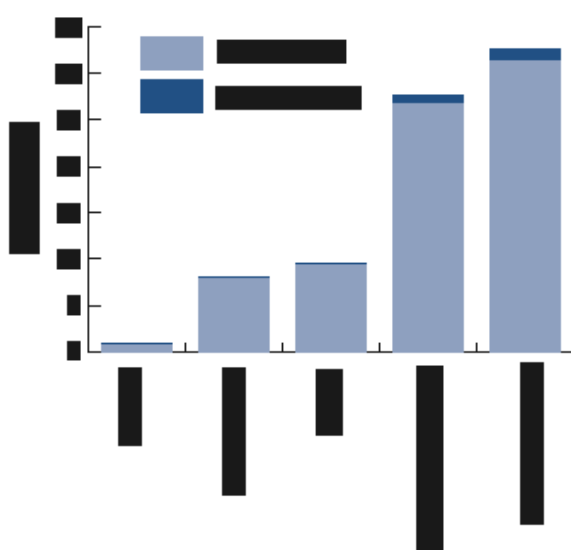
#### Self perceived health status and sense of well-being

A Guernsey ‘Healthy Lifestyle’ survey is carried out every five years. The most recent survey was performed in November 2003, when approximately 1,500 Guernsey adults were asked to complete and return a validated questionnaire of which around 800 replies (53%) were received.

Euroqol is a generic multi dimensional health profile which was developed for use in Europe in 1990 and is now widely used for comparative purposes. A revised version is the EQ-5D which reports on five dimensions of health: self care, ability to perform usual activities, mobility, perceived anxiety and depression, and perceived pain or discomfort.

The percentage of the sample responding to “I have some” or “I have extreme problem with” are shown below in **Figure 13**.

**Figure 13: Guernsey “Healthy LifeStyle” Survey 2003 - Euroqol 5 Dimensions**



Source: Public Health and Strategy

Indicator 4: Self Perceived Health Status and Sense of Well-being

Indicator Data

The same questions were asked in the third Guernsey “Healthy Lifestyle” survey in 1998, and in other jurisdictions including Jersey (1999), UK (1993) and New South Wales, Australia (1998).

It will be seen in **Table 8** that in comparison with 1998, there is less of a self reported problem across all five modalities of the EQ-5D.

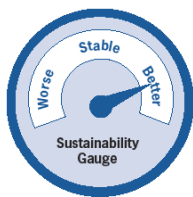
However, although Guernsey residents report less “physical problems” (i.e. problems with self care, usual activities, mobility) than the other jurisdictions, they report more anxiety and depression than Jersey and the UK, and high amounts of non-specific “pain and discomfort”.

Table 8: Guernsey “Healthy LifeStyle” Survey 2003 - Euroquol 5 Dimensions

	Guernsey 1998	Guernsey 2003	Jersey 1999	UK 1993	New South Wales 1998
Self Care	1.0%	0.8%	3.0%	4.0%	3.2%
Usual Activities	10.0%	8.0%	14.0%	16.0%	16.8%
Mobility	12.0%	9.5%	20.0%	18.0%	16.5%
Anxiety or Depression	38.0%	27.6%	30.0%	25.0%	38.9%
Pain or Discomfort	36.0%	32.7%	30.0%	33.0%	23.0%

Source: Public Health and Strategy

Indicator Analysis



The results from the Guernsey “Healthy Lifestyle” Survey 2003 Euroquol indicators show a reduction from the 1998 results. However Guernsey residents still report higher levels of “anxiety or depression” compared to the UK and higher levels of “pain and discomfort” compared to Jersey.

## References and Further Reading

## Further Reading

**104th Annual MoH Report**

Department of Health and Social Services  
October 2003

**Corporate Housing Programme**

Billet d'Etat II, February, 2003

**"Our Healthier Islands"**

Improving health in Guernsey  
and Alderney 1994 - 1999  
Board of Health  
June 2000

**Corporate Anti-Poverty Programme**

Billet d'Etat XXV, November, 2003

**One Hundred Years of Health**

The Changing Health of Guernsey  
1899 – 1999  
Ed by Dr David Jeffs  
Board of Health  
November 1999

**"Anti-Poverty Policies – a Range of Possible Options for Guernsey"**

Townsend Centre for International Poverty Research.  
February 2003

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## References and Further Reading

### Websites

**Guernsey Health Promotion Unit**

[www.guernseyhealthpromotion.com](http://www.guernseyhealthpromotion.com)

**Guernsey Chest and Heart Association**

[www.chestandheart.fsnet.co.uk](http://www.chestandheart.fsnet.co.uk)

**Cancer Research Campaign**

[www.crc.org.uk](http://www.crc.org.uk)

**Imperial Cancer Research**

[www.icnet.uk](http://www.icnet.uk)

**British Heart Foundation**

[www.bhf.org.uk](http://www.bhf.org.uk)

**Royal Society for the Prevention of  
Accidents**

[www.rosipa.co.uk](http://www.rosipa.co.uk)

**UK National Air Quality Information Archive**

[www.airquality.co.uk](http://www.airquality.co.uk)

# Educational Achievement

## Headline Indicator

### Snapshot

- Guernsey's educational achievers continue to perform very well at all stages.
- However, the Island still has a much higher proportion of pupils leaving school without formal qualifications compared to the UK, which is probably due to the lower school leaving age.

### Trends

The number of Guernsey children gaining level 4 or above in Key Stage 2 National Curriculum SATs remains steady; pupils studying English rose from 71% in 2002 to 74% in 2003 and Maths fell from 69% in 2002 to 66% in 2003.

Guernsey pupils achieving at least one GCSE have remained at 80% for the second consecutive year and those achieving at least five GCSEs fell slightly from 58% in 2002 to 57% in 2003. Over the last five years, the trend for those pupils gaining no qualifications has been constant between 16% and 19%. Last year 2003 was no exception with 18% of pupils leaving school with no qualifications.

The percentage of Guernsey pupils continuing in Post-16 education increased by 2% in 2003 to 63%.

The number of Guernsey students engaged in Higher Education has risen again from 838 to 847. Results from the latest survey undertaken by the Education Department shows that 51% of those graduates surveyed had returned to Guernsey.

### Connections

Education cuts across many facets of community life and has an impact on the Island's sustainability. For example, it impacts on:

**Workforce Skills** – it is important the Island develops a workforce that maintains a healthy and competitive economy. *“This requires investment in research and development, plant and machinery, and improvements in the skills and capabilities of the work force.”* (1999 UK Strategy, Sustainable Development, the UK Government Approach)

➡ [see page 117](#)

**Economic Performance** – in connection with workforce skills a key ingredient in sustaining a vibrant economy is the skills and knowledge available in the community. (see Community Participation). This is made possible providing young people with opportunities through education. *“There is now a wide acceptance that to build an*

➡ [see page 81](#)

# Educational Achievement

## Connections, Policy Objectives and What is Measured

### Connections

*economy that will continue our success in the global market place, we will need an even better educated and more highly skilled workforce". (UK Department for Education and Skills, 2003)*

see page 53



**Community Participation** – enabling people to equip themselves with life and work skills and encouraging adults to achieve their full potential through learning. Educational achievement helps to foster a more inclusive community through for example, lifelong learning. The first objective of the 2003 Sustainable Development Action Plan for Education and Skills is: *"All learners will develop the skills, knowledge and value base to be active citizens in creating a more sustainable society."*

see page 47



**Lifelong Learning** – At post-16 there is a global expansion for lifelong learning and the Island has to meet not only the demands of a knowledge based service economy which is heavily reliant on ICT capability and with a requirement for reskilling opportunities to be provided.

### Policy Objectives

**The Education Department's Development Plan<sup>1</sup> sets out to provide the conditions necessary to raise Guernsey's educational achievements; this is also the target underpinning teachers' workload and pay issues.**

**Policy Plan Reference:**

2003 Policy and Resource Plan, Part One, Section 4 – Social Projects.

<sup>1</sup>Education Council's Development Plan, Billet d'Etat 111, 2003.

### What is Measured

In order to measure Educational Achievement across the community, the first indicator measures literacy and numeracy using the National Curriculum Standard Assessment Tests (SATs). The proportion of pupils gaining at least one GCSE and from that, the proportion of pupils gaining five or more GCSEs is then examined.

The percentage of pupils leaving school with no formal qualifications is also measured as well as the percentage of Guernsey children choosing to continue into full-time education.

Finally, one element of adult education is measured by the extent and type of qualifications gained by people aged 19 and over and the numbers of Guernsey students engaged in Higher Education in the UK.

# Educational Achievement

## Indicator 1: Literacy and Numeracy

### Indicator Measure

#### Percentage of Guernsey pupils, aged 11, who gained Level 4 or above in National Curriculum SATs.

National Curriculum Standard Assessment Tests (SATs) measure a child's achievement and also help teachers identify strengths and weaknesses in children's understanding. It includes testing 11 year olds on their reading, writing (including hand writing), spelling, maths, mental arithmetic and science skills.

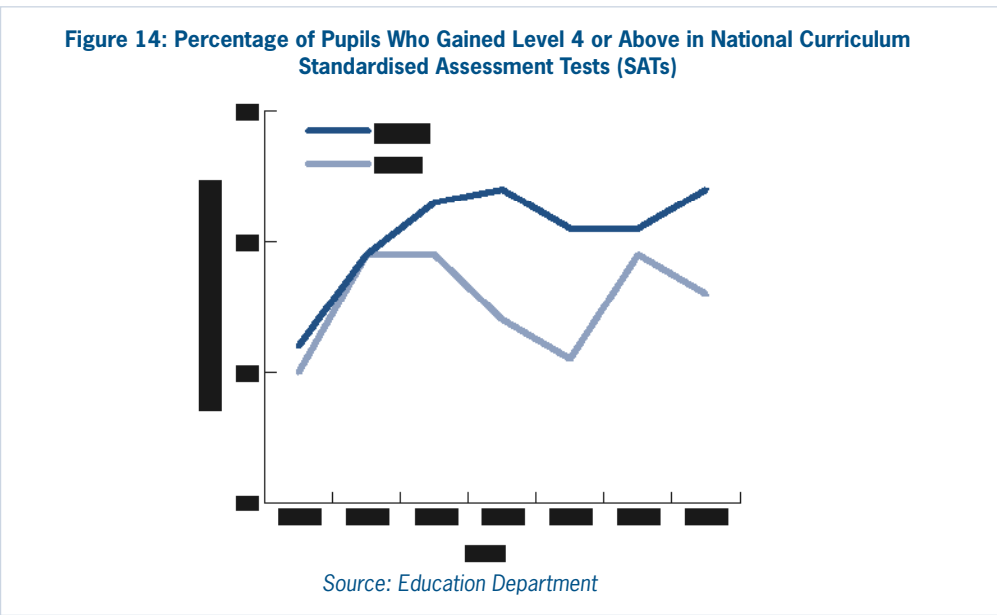
### Indicator Data

Table 9: The percentage of Guernsey and UK pupils who gained Level 4 or Above in the National Curriculum Key Stage 2 SATs

	1997		1998		1999		2000		2001		2002		2003	
	Gsy	UK	Gsy	UK	Gsy	UK	Gsy	UK	Gsy	UK	Gsy	UK	Gsy	UK
Maths	62%	64%	69%	65%	73%	71%	74%	75%	71%	75%	71%	75%	74%	75%
English	60%	62%	69%	59%	69%	69%	64%	72%	61%	71%	69%	73%	66%	72%

Source: Education Department

Table 9 and Figure 14 shows the proportion of pupils gaining Level 4 SATs for English and Maths from 1997 to 2003. In 2003, one local school withdrew from the tests so the data is drawn from a slightly reduced evidence base. It nonetheless provides a guide to the performance of local schools in comparison with the UK. The percentage of pupils gaining Level 4 English has risen to 74% following a two year period when it remained consistent at 71%. In Mathematics, there has been a slight decrease by 3% to 66% between 2002 and 2003, but the results remain broadly within range.





## Indicator 1: Literacy and Numeracy

### Indicator Analysis

This indicator shows the proportion of 11 year old pupils gaining level 4 or above in Key Stage 2 SATs. The English results have risen but Mathematics results have decreased slightly. Guernsey achievements are slightly below that of the UK.



# Educational Achievement

## Indicator 2: Education of Young People

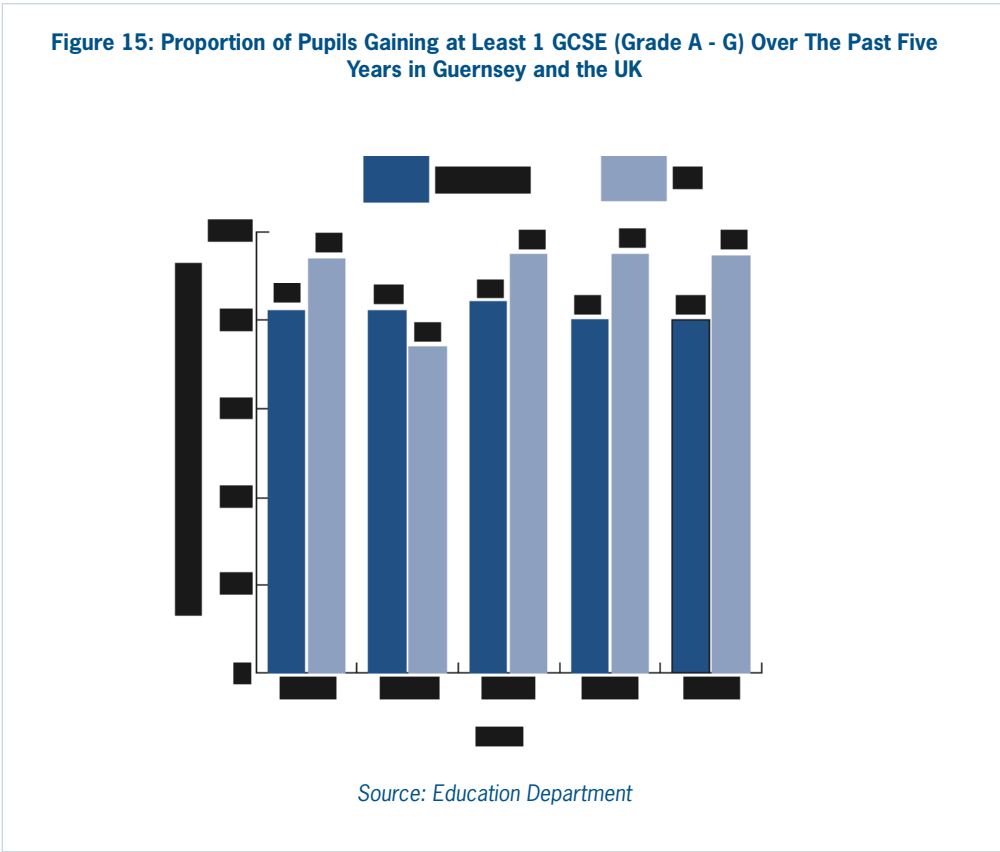
### Indicator Measure

#### Proportion of pupils gaining at least one GCSE (grade A-G) and above, and proportion of pupils gaining five or more GCSEs (grade A-C)

It is essential that members of the community have the opportunity to develop their potential through education and this indicator measures the proportion of pupils aged 16 years achieving at least one GCSE and those achieving five or more GCSE grades A-C. To achieve stable and sustainable growth, the Island needs a well-educated, well-equipped and adaptable labour force. Learning also has a wider contribution to make in promoting active citizenship and helping combat social exclusion. It opens up opportunities for people and gives them the chance to make a full contribution to the community.

### Indicator Data

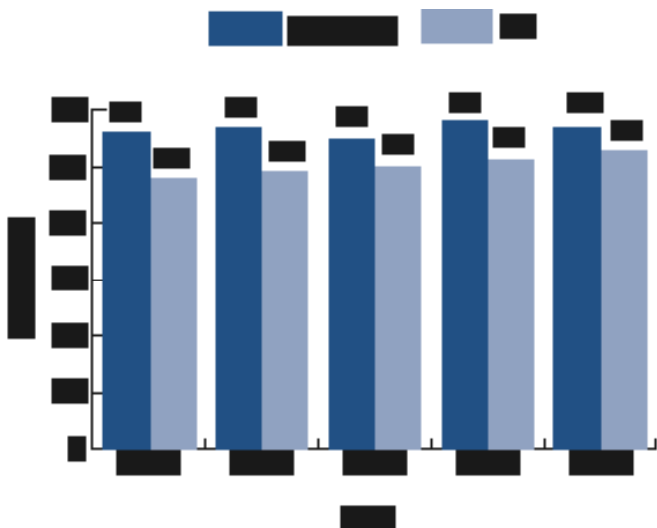
**Figure 15** shows the percentage of Guernsey and UK pupils achieving at least one GCSE (grade A-G) over the past five years. In 2003 the proportion of pupils achieving at least one GCSE remained constant with 2002, as with the UK. Throughout all years the Guernsey results have ranged between 80% and 84%.



### Indicator Data

**Figure 16** shows the percentage of Guernsey and UK pupils achieving at least 5 GCSEs (grade A-C) over the past 5 years. In 2003 the proportion of pupils gaining at least 5 GCSE grades has decreased by 1% and increased in the UK by 2%. Since 1999 the Guernsey trend has been constant in that the percentage of pupils has not fallen below 55% or gone above 58%.

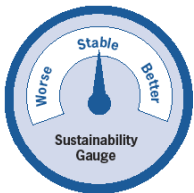
**Figure 16: Proportion of Pupils Gaining at Least Five GCSE (Grade A - C) Over the Past Five Years in Guernsey and the UK**



Source: Education Department

Although the proportion of Guernsey students gaining at least one GCSE (grade A-G) is consistently below that of the UK, the proportion of Guernsey students gaining five or more GCSEs (grade A-C) is encouragingly higher than the UK. This indicator shows that Guernsey's educational achievers are performing well.

### Indicator Analysis



# Educational Achievement

## Indicator 3: School Leavers With No Qualifications

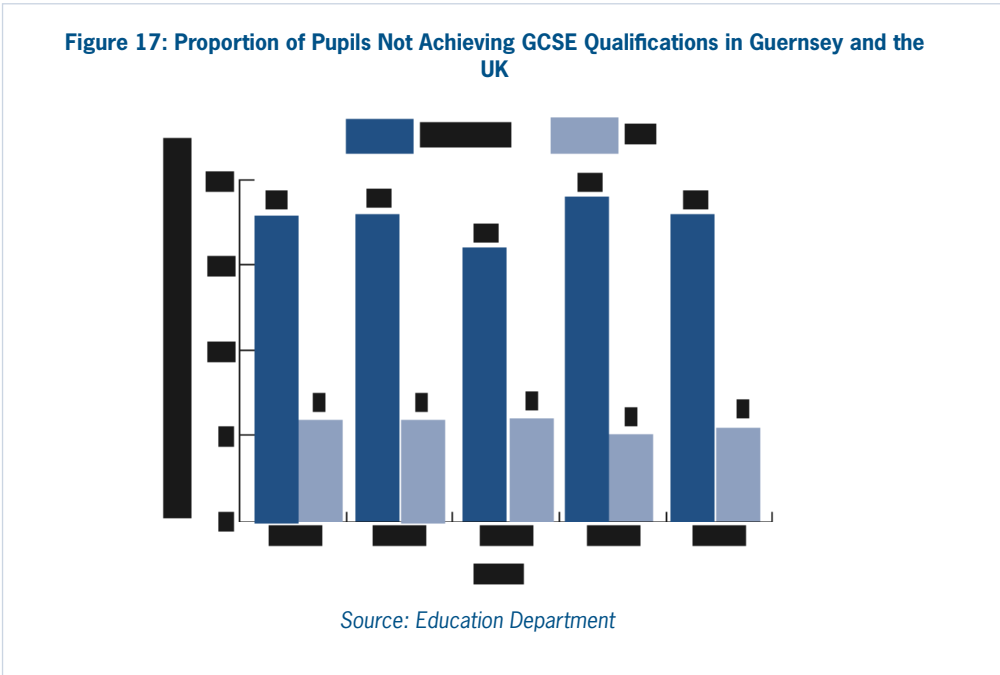
### Indicator Measure

#### Proportion of pupils not achieving GCSE qualifications

This indicator measures those pupils gaining no GCSEs. For the Island to enhance achievement and provide career opportunities for young people, then the number of school leavers with no qualifications needs to be limited. This indicator shows the proportion of Guernsey pupils who leave school with no qualifications.

### Indicator Data

Although Guernsey has a generally well educated population there are still individuals leaving school with no GCSEs possibly due to students being able to leave school at 15. This figure has remained steady over the last five years.



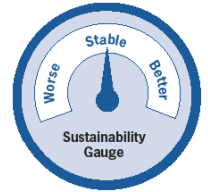
**Figure 17** shows that there has been a consistent proportion of students gaining no GCSEs over the past five years; the trend has been constant between 16% and 19%. The difference between the low UK rates and the high Guernsey rates can be attributed to:

1. Pupils in Guernsey may leave school at 15 prior to the GCSE examinations.
2. Employment is currently easier to find in Guernsey for those young people with no qualifications. The long term trends may well change when in 2008 the school leaving age will be raised to 16 in line with the UK.

## Indicator 3: School Leavers With No Qualifications

### Indicator Analysis

At first glance, the Guernsey figures seem alarmingly higher than the UK but it must be taken into account that the school leaving age is one year lower than the UK meaning that pupils can leave school without taking GCSEs. Guernsey also offers an apprenticeship scheme that currently has a total of 350 apprentices and may well recruit pupils who otherwise would have stayed on at school. Post 2008, when the school leaving age comes into line with the UK, there may well be a change in this trend.



# Educational Achievement

## Indicator 4: Post 16 Participation Rates

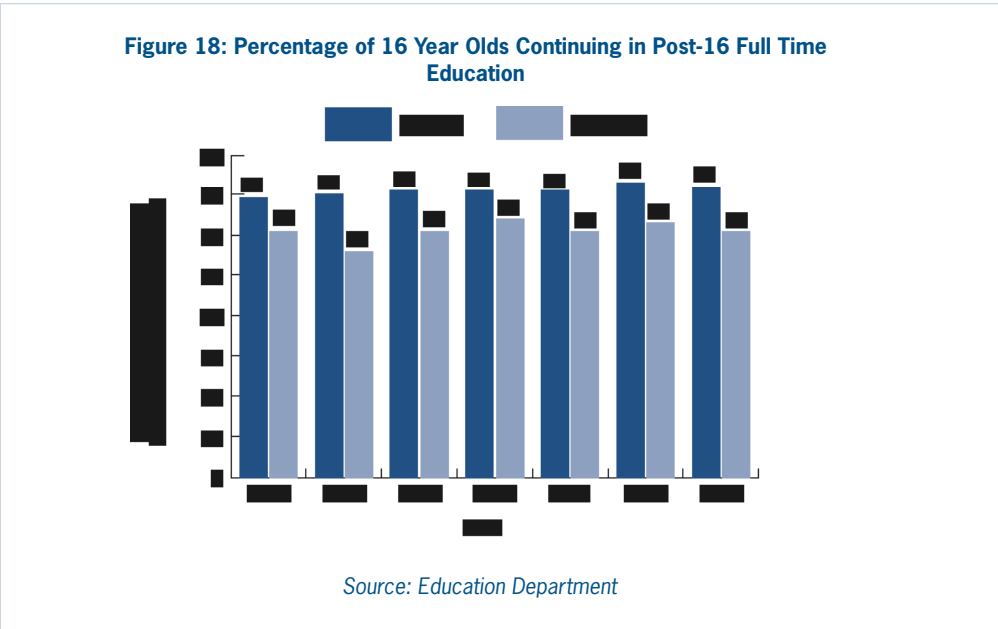
### Indicator Measure

#### Percentage of 16-19 year olds in full-time education

At post 16 there is a global expansion in lifelong learning and the Island has to meet the demands of a knowledge-based service economy, heavily reliant on ICT capability and a requirement for re-skilling opportunities to be generally available. This generation is experiencing a fast changing work environment and people may change their careers many times during their working life.

### Indicator Data

**Figure 18** shows the proportion of pupils entering post 16 education in Guernsey compared to England. Over the last seven years the percentage of Guernsey students entering post 16 education has varied between 56% and 64%. In 2003 the percentage has decreased by 2% from 2002. Guernsey has a predominantly lower rate than that of the UK as approximately 14% of students leave school aged 15 for the reasons outlined above under Indicator Three. The Island offers a traditional apprenticeship scheme which currently has 350 apprentices and recruits students who otherwise may well have stayed in full-time education.



### Indicator Analysis



Over the last seven years the percentage of Guernsey pupils continuing in post 16 education has not dropped below 56%. However these figures are below England which has been between 69% and 73%. This could be partly due to the lower school leaving age than in the UK, and the fact that employment is easier to find on the Island at present.

## Indicator 5: Adult Education (19 Year Olds and Over)

### Indicator Measure

#### **Proportion of adults enrolling on Further/Higher Education courses and subsequently gaining qualifications**

Education mostly focuses on the younger generation at school or university. However, lifelong learning is recognised as being a key determinant of an individual's life chances. This indicator measures the proportion of adults who take part in further or higher education courses as education does not have to stop once pupils have left school. There is no age barrier for adults who wish to educate themselves and this indicator can measure the participation and success rates of adults undertaking lifelong learning on a voluntary basis.

### Indicator Data

#### **Level of learning in Guernsey**

In recent years it has become accepted that economic success and community prosperity is increasingly shaped by levels of participation and achievement in learning. In 2001 a survey of adult learning "The Learning Trends Survey in Guernsey " was conducted to ascertain the extent and type of qualifications gained by people aged 19 and over. The main objectives of the survey were:

1. To measure the learning levels in the Island by a random stratified survey.
2. To consider the impact that the attainment of learning levels has for individuals in areas such as earnings, future habits and employment opportunities.
3. To investigate attitudes to learning.

In 2004, the research was undertaken from a sample of 395 people aged between 28 and 40. All attended local schools although in some instances are no longer resident in the Island.

The survey researched the learning profile of the locally educated population by levels that are defined on the key in **Table 10** It has assessed individuals according to the highest qualifications they achieved at school or beyond.

# Educational Achievement

## Indicator 5: Adult Education (19 Year Olds and Over)

### Indicator Data

**Table 10: Percentage Qualification Levels in 2001 and 2004 for England and Guernsey**

	Level 1 or No Qualifications		Level 2		Level 3		Level 4	
	England	Gsy	England	Gsy	England	Gsy	England	Gsy
Total 2001	35%	24%	22%	40%	19%	17%	24%	19%
Total 2004	35.5%	16%	22%	42%	18.5%	19.5%	24%	22.5%

Key: *Source: Education Department*  
 Level 1 or below - less than 5 GCSE Grades A-C  
 Level 2 - 5 or more GCSE Grades A-C, Intermediate GNVQ  
 Level 3 - Advanced GNVQs, A Levels, Btec National Diploma  
 Level 4 or above - Degree Level Qualifications or above such as BA, BSc, Bed

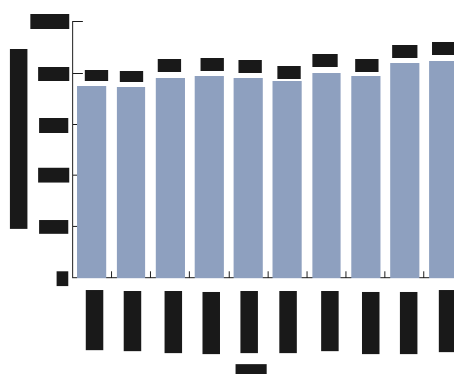
There has been a significant increase in learning levels since 2001. There has been an 8% decrease in those who have studied to level 1, with a corresponding increase at levels, 2, 3 and 4. Guernsey is slightly below the English percentage figures for level 4, but is nearly double the percentage at level 2 (**Table 10**). At level 1, Guernsey's percentage level is 16% compared to the England's 35.5%.

### Number of Guernsey students engaged in Higher Education in the UK

Education plays an essential role in the fabric of life on the Island. Each year, over 800 students attend Higher Education establishments in the UK and increasing numbers of learners are undertaking study at level 4, (degree equivalent or above).

**Figure 19** shows the change in the number of Guernsey students engaged in Higher Education in the UK (including postgraduate students). The general trend since 1994/95 has been steadily increasing and in 2003/04 there is a record number of students engaging in Higher Education in the UK.

**Figure 19: Number of Guernsey Students Engaged in Higher Education in the UK, 1994 to 2004**



*Source: Education Department*

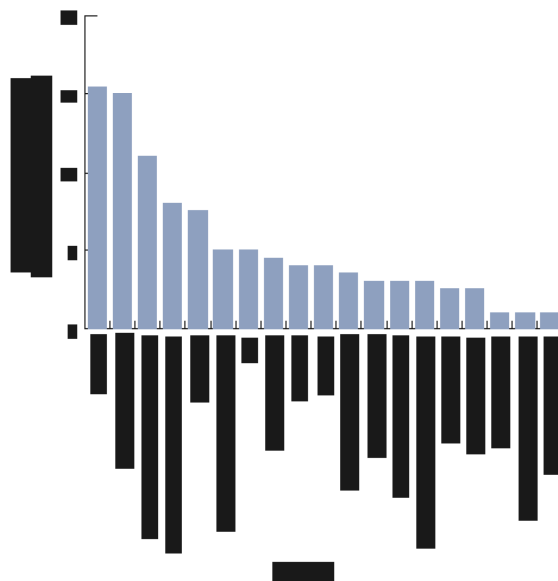


## Indicator 5: Adult Education (19 Year Olds and Over)

### Indicator Data

The Education Department published a survey, “Higher Education: The Guernsey experience in 2003” that considered the experience of current students in Higher Education and the experience of those who graduated 5-20 years ago.

**Figure 20: Subjects Studied by Guernsey Undergraduates**



Source: Education Department

Note: The 'Combined' degree category covers a wide range of subjects such as humanities, for example, Combinations of English & History, Business Studies, Social, Economic and Political Studies.

**Figure 20** illustrates those subjects studied by Guernsey Undergraduates. The most popular subjects are Combined (15.5%), and Creative Arts & Design (15%). Fewer students study more specialised subjects such as Veterinary Science, Agriculture and Related Subjects and Mathematical Sciences.

**Table 11: Top Five Economic Sectors of Employment for Guernsey Graduates**

Economic Sector	% Employment of Graduates
Finance, Insurance and Business Services	21
Education	12
Other Public Services	12
Information Communication Technology (ICT)	9
Construction	9

Source: Education Department

# Educational Achievement

## Indicator 5: Adult Education (19 Year Olds and Over)

### Indicator Data

51% of former graduates returned to the Bailiwick of Guernsey. As shown in **Table 11** the majority, 21%, gained employment in the Finance, Insurance and Business Services Sector with 12% being employed in both Education and Other Public Services. The Construction sector and the ICT sector each attracted 9% of graduates

### Indicator Analysis



Since 1994/95 an increasing number of people have left the Island to study in the UK covering a broad range of subjects. This has steadily risen from 741 to 847 over the last seven years. Perhaps due to less diversity and limited career opportunities, many do not return to the Island. According to the figures in **Table 11** just over half of those surveyed had returned to the Island. Those that do return, mainly work in the Finance, Insurance and Business Services sectors or in the Island's public sector.

### Further Reading

#### **Education Development Plan**

Billet d'Etat VI, 2002 and  
Billet d'Etat III, 2003

#### **College of Further Education: Annual Report**

Guernsey College of Further Education, 2002

#### **“Learning in Guernsey”**

The Findings of the Learning Trends Survey in Guernsey  
University of Plymouth and the States Education Department, 2001

#### **“Higher Education: The Guernsey Experience in 2003”**

Education Department, 2003

### Organisations

#### **Education Department**

Grange Road  
St Peter Port  
Guernsey.  
GY1 1RQ  
Tel 710821  
Fax 714475

#### **Guernsey College of Further Education**

Route des Coutanchez  
St Peter Port  
Guernsey.  
GY1 2TT  
Tel 737500  
Fax 714153

#### **Training Agency**

Richmond House  
St Ann's Place  
St Peter Port  
Guernsey  
GY1 2NU  
Tel: 01481 721555  
Fax: 01481 701155  
admin@trainingagency.gg

# Educational Achievement

## References and Further Reading

### Websites

**Guernsey College of Further Education**

[www.cfe.edu.gg](http://www.cfe.edu.gg)

**Guernsey Grid for Learning**

[www.ggfl.gg/council](http://www.ggfl.gg/council)

**Learn Direct**

[www.learndirect.co.uk](http://www.learndirect.co.uk)

**Department for Education and Skills**

[www.dfes.gov.uk](http://www.dfes.gov.uk)

**Learning and Skills Council**

[www.lsc.gov.uk](http://www.lsc.gov.uk)

**Guernsey Careers Service**

[www.careers.gg](http://www.careers.gg)

# Community Participation

## Headline Indicator

### Snapshot

- Although the number of people on the electoral roll has increased, the proportion voting remains relatively low compared with the Island's overall population.
- Out of the seven new districts, three had a percentage turnout of between 50% and 60%, whilst four had a turnout of between 60% and 70%.
- Local involvement in charitable organisations has slightly increased from last year.

### Trends

Over the past eight years the total number of people registered on the electoral roll had been gradually declining. However the percentage turnout increased from 56% in 2000 to 63% in 2004. This may be due to factors such as the new style Government and a campaign to encourage participation in the 2004 General Election.

The number of charities registered with the Association of Guernsey Charities has increased from 204 in 2003 to 215 in 2004. Total membership has increased from 26,871 to 28,350 respectively which equates to an increase of 6%.

### Connections

Community participation whether it is by voting or involvement with voluntary organisations reflects the Island's willingness to contribute time and skills to the benefit of all. Democracy empowers people to be involved in the decision-making process. Voluntary organisations include those that provide support, raise funds, and act as pressure groups to influence political decisions.

*"Public action and involvement is essential for a truly sustainable community. Voluntary activity can do much to promote social inclusion and cohesion in a community, which benefits the recipients, participants and society as a whole." "Characteristic of a sustainable society: Empower all sections of the community to participate in decision making and consider the social and community impacts of decisions." (Sustainable Development, the UK Government's Approach, 2003)*

This, in turn, has effects on:

**Health** – voluntary organisations can supplement services provided by the Health and Social Services Department and private providers:



**see page 21**

# Community Participation

## Connections, Policy Objectives and What is Measured

### Connections

*"The role of the voluntary sector is often supplementary to statutory services, but it can also be seen as complementary through:*

*the initiation of new approaches and techniques;*

*the development of specialist expertise;*

*the establishment of 'partnerships' with statutory services - like the provision of meals on wheels;*

*provision to groups which statutory services do not reach, like drug addicts."*

(An Introduction to Social Policy, Robert Gordon University, 2004)

see page 73



**Crime** – The Neighbourhood Watch Scheme is a voluntary scheme and can help to bond the community by working together against crime:

*"Neighbourhood Watch is also about bringing people closer together and involving them in local life. A stronger community spirit grows as people get to know each other and look out for one another."*

*"A better quality of life - There is more to Neighbourhood Watch than protecting homes and property against burglary. By working together, neighbours can help reduce all sorts of local crimes. They can also take action to improve the environment by getting something done about things like vandalism, graffiti, poor lighting and a lack of local amenities."*

(Metropolitan Police and Neighbourhood Watch, 2004)

see page 63



**Housing** – there are organisations on the Island that supplement the services provided by the local Government, for example, Maison St Pierre which was formed to "...establish a sheltered home for young women..." and Sarnia Housing "...provide temporary housing for the homeless and permanent accommodation for the elderly...". (Association of Guernsey Charities, 2004)

see page 125



**Biodiversity** – the Island's natural habitat relies on the support of charities and the work they do. The voluntary sector, at local and national level, plays an important role in protecting and conserving the Island's biodiversity, for example, La Société Guernesiaise, Guernsey Conservation Volunteers and Royal Society for the Protection of Birds:

*"The RSPB has been appointed by the UK Government to lead the action for 36 of the species highlighted for action under the UK Biodiversity Action Plan. As "Lead Partner" we are responsible for making sure that conservation action for these birds, plants and invertebrates is carried out, and the targets are met."* (RSPB, 2004)

## Connections, Policy Objectives and What is Measured

### Policy Objectives

**To establish a permanent electoral roll, rather than the “opt-in” method used in previous elections and to actively promote the importance of voter registration.**  
**To support community based organisations.**

### What is Measured

The number of eligible voters on the Island is measured and compared to the actual number of voters that turned out for the general election and voting patterns.

Membership of local voluntary groups is measured through the membership figures of the local charitable organisations belonging to the Association of Guernsey Charities.

# Community Participation

## Indicator 1: Voting in Local Elections

### Indicator Measure

#### Number of people voting in local elections

Public action and involvement is essential for a truly sustainable community. The right to vote is one of the most important rights of citizenship in a democratic country or island and it is important to try to empower all sections of the community to participate in decision making and consider the social and community impacts of such decisions.

### Indicator Data

#### Number of people voting in local elections

All persons aged 18 and over who have been resident on the Island for over two years are eligible to vote in Local Elections. During 2003 the States Procedures and Constitution Committee ran the “Sign up and Have Your Say Campaign” and as a result, over 30,000 Islanders have registered on the Electoral Roll. This represents an increase of 16% compared to 2003/04. **Table 12** below shows the number of persons currently registered on the Electoral Roll.

**Table 12: Persons Registered on the Electoral Roll by Parish**

	1998/9	1999/00	2000/01	2001/02	2002/03	2003/4	2004/5
<b>St Peter Port</b>	5,786	5,749	5,629	5,619	5,581	5,544	6,836
<b>St Sampson</b>	3,934	3,894	3,841	3,847	3,820	3,805	4,389
<b>Vale</b>	4,806	4,759	4,718	4,720	4,675	4,656	5,219
<b>Castel</b>	4,341	4,304	4,339	4,269	4,244	4,207	4,553
<b>St Saviour</b>	1,387	1,378	1,393	1,378	1,375	1,367	1,590
<b>St Pierre du Bois</b>	1,171	1,157	1,119	1,133	1,125	1,122	1,358
<b>Torteval</b>	580	586	553	550	547	541	612
<b>Forest</b>	715	710	703	711	711	716	894
<b>St Martin</b>	2,939	2,938	2,861	2,842	2,830	2,853	3,235
<b>St Andrew</b>	1,189	1,190	1,174	1,165	1,158	1,145	1,382
<b>Total</b>	<b>26,848</b>	<b>26,665</b>	<b>26,330</b>	<b>26,234</b>	<b>26,066</b>	<b>25,956</b>	<b>30,068</b>

Source: Registrar General of Electors

Although it is still possible to aggregate the data by parish, the boundaries of the electoral districts have now been altered to make each district contain a similar number of people and provide fairer representation. St Peter Port has been split into “St Peter Port North” and “St Peter Port South”, St Saviour, St Pierre du Bois, Torteval and Forest have been joined to become “West” and St Martin and St Andrew have become “South East”. **Table 13** denotes how the figures now look.



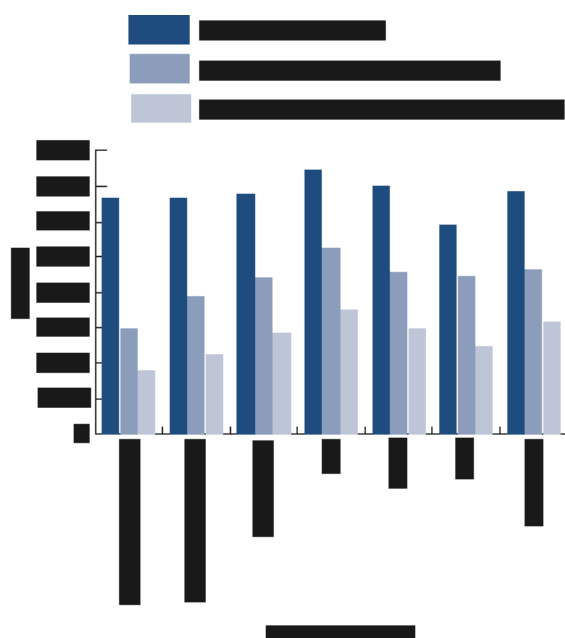
**Table 13: Persons Registered on the Electoral Roll by Electoral District**

	2004/2005
St Peter Port South	2,972
St Peter Port North	3,864
St Sampson	4,389
Vale	5,219
Castel	4,553
West	4,454
South East	4,617
<b>Total</b>	<b>30,068</b>

Source: Registrar General of Electors

**Figure 21** shows the number of people on the Electoral Roll compared to those who actually turned out to vote in the 2004 General Election, by district and population. The number on the Electoral Roll is low compared to the population of the district and the actual turnout is lower still.

**Figure 21: Number of Votes Cast in Each Electoral District — 2004 General Election**



Source: Registrar General of Electors

**Notes:**

- 1) Based on 2001 Census data for population over 18 years old. For the purpose of this graph, the total St Peter Port population figure has simply been halved to depict the split in the electoral district because the actual figure is not known.
- 2) Based on the 2004/05 Electoral Roll numbers.
- 3) Election turnout figures based on 2004 General Election.

# Community Participation

## Indicator 1: Voting in Local Elections

### Indicator Data

#### Number of votes cast in each district

The percentage turnout in the 2004 General Election is shown in **Table 14**. The West district had the lowest percentage turnout at 55% and the South East had the highest at 69%. The average turnout for the 2004 Election was 63%.

**Table 14: Voting Patterns**

Electoral District	2001 Census Population (Over 18) <sup>2</sup>	Number on Electoral Roll	Percentage of Population	Turnout in General Election	Percentage Turnout	Percentage of Population who voted in 2004
St Peter Port South <sup>1</sup>	6,673	2,972	45%	1,765	59%	26%
St Peter Port North <sup>1</sup>	6,673	3,864	58%	2,227	58%	33%
St Sampson	6,778	4,389	65%	2,827	64%	42%
Vale	7,459	5,219	70%	3,521	67%	47%
Castel	6,997	4,553	65%	2,989	66%	43%
West	5,913	4,454	75%	2,449	55%	41%
South East	6,862	4,617	67%	3,173	69%	46%
All Island 2004	47,355	30,068	63%	18,951	63%	40%
All Island 2000	47,355	26,330	56%	16,484	63%	35%

Source: Registrar General of Electors

<sup>1</sup> For the purpose of this table, the total St Peter Port population figure has simply been halved to depict the split in the electoral district because the actual figure is not known.

<sup>2</sup> Population data is only available for 2001 (the date of the last Census).

As a percentage of the total parish population, taken from the 2001 Census figures, St Peter Port South and North have the lowest percentage of population who voted at 26% and 33% respectively with the Vale the highest at 47%.

### Indicator Analysis



The “Sign Up and Have Your Say” campaign has helped boost the percentage turnout from 56% in 2000 to 63% in 2004 (**Table 14**). This compares to local authority elections in England whereby the average turnout is 35% (Local Government Elections Centre at the University of Plymouth, 2003), showing Guernsey’s turnout to be nearly double. In the 2002 Jersey General Elections, on average 45% of those on the electoral roll turned out for Senator elections and 38% for the Deputy elections.

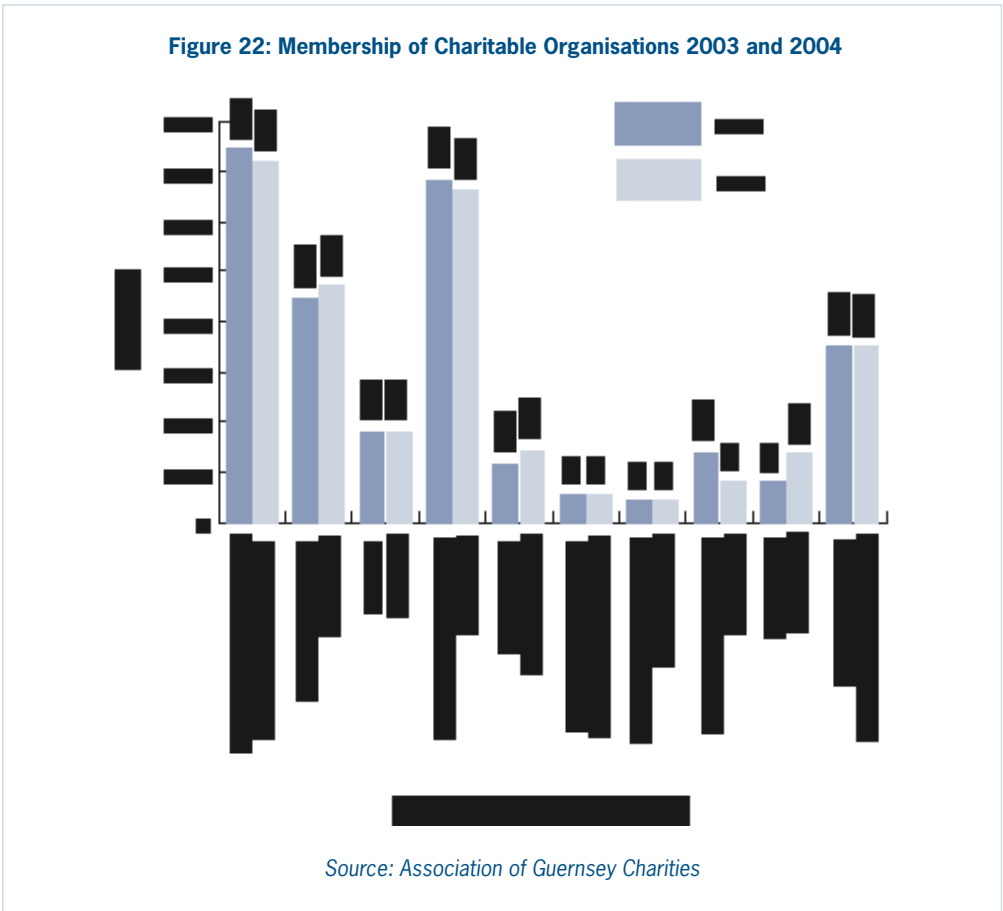
Indicator 2: Involvement in Local Voluntary Groups

Indicator Measure

Proportion of residents involved in local voluntary groups

Voluntary activity can do much to promote social inclusion and cohesion in a community, which benefits the recipients and society as a whole. This indicator measures the numbers of people who are members of charitable organisations registered in Guernsey.

Indicator Data



**Figure 22** shows the membership of local charitable organisations belonging to the Association of Guernsey Charities. This indicates that there are 215 individual organisations registered with the Association of Guernsey Charities with a total membership of 28,350 which has increased by 11 organisations and 1,479 members. In 2003 there were 204 organisations with a total membership of 26,871.

Those charities with the largest membership are Physical Health (for example, Cancer Research, UK – Guernsey and Guernsey Chest and Heart Association) and Recreation (for example, Guernsey Sailing Trust and Guernsey Bicycle Group). Please note that the above figures may include persons who are members of more than one organisation.

# Community Participation

## Indicator 2: Involvement in Local Voluntary Groups

### Indicator Analysis



The number of individual organisations and membership has increased from 2003. This improvement is encouraging in that there are more Islanders willing to actively participate in their community helping to provide a more inclusive society which is beneficial to quality of life on the Island.

## References and Further Reading

### Further Reading

#### **Promotion of the Electoral Roll**

Billet d'Etat X, 2003

### Organisations

#### **Registrar General of Electors**

Home Department  
Sir Charles Frossard House  
PO Box 43  
La Charroterie  
St Peter Port  
Guernsey  
GY1 1FH  
Tel 717000

### Websites

#### **Association of Guernsey Charities**

[www.guernseycharities.org.gg](http://www.guernseycharities.org.gg)

#### **An Introduction to Social Policy**

<http://www2.rgu.ac.uk/publicpolicy>



### Snapshot

- States housing provision shows signs of improving quality, although the waiting list for States housing remains a high level.
- New build housing is predominantly taking place on previously developed land.
- The housing affordability index indicates that people are comparatively better able to cope with house prices due to low interest rates.

### Trends

The number of housing units found to be substandard was two units in 2003, compared with five units in 2002. Over the last two years 94% of housing development has taken place on previously developed land. The number of people on the States housing waiting list was 187 in 2003, maintaining the high level shown over the last five years.

House prices have risen steadily over the last five years, but over the last year they have begun to stabilise. Despite these rising house prices the affordability index continues to show that Island homes are still more affordable than they were in the early 1990s.

### Connections

Housing issues affect everybody in Guernsey. There is a high demand for housing on the Island but a limited supply, which is why there continue to be strict controls on occupation.

Links between housing quality and poverty on the Island have been identified by the "Survey of Guernsey Living Standards", which states:

*"Poor housing conditions are affecting the health of more than one in 20 people; With one in ten adults aged under 30 or over 65 reporting health problems caused by poor housing conditions."*<sup>1</sup>

House prices are also linked with **economic performance**, in particular to average earnings, which reflect the health of the economy and the ability of people to afford adequate housing.



**see page 81**

*"Although in historic terms current average prices, both nominal and real, are at a high, as measured by the standard price/ earnings ratio, the fall in nominal interest rates has meant that on average property is still affordable."*<sup>2</sup>

<sup>1</sup> Survey of Guernsey Living Standards, 2002.

<sup>2</sup> The Operation of the Housing Market in Guernsey, LECG, 2002.

# Housing

## Connections, Policy Objectives and What is Measured

### Connections

see page 171



see page 125



see page 97



Housing also has links with many environmental indicators through the physical and spatial impacts that development can have. Ensuring that new building takes place on previously developed land is the key to regulating **land use** impact, and minimising **biodiversity** loss.

**Energy efficiency** - Future building regulations for new housing developments will be influential in improving the Island's energy efficiency.

*"Energy use in buildings accounts for between 40% and 50% of the UK's emissions of carbon dioxide, with housing contributing half of this. 20-30% could be saved through the widespread application of energy efficiency measures which are cost effective. It is clear that there is a big prize to be had in the building sector." Sustainable Development - The UK Government's approach, 2004, [www.sustainable-development.gov.uk](http://www.sustainable-development.gov.uk)*

### Policy Objectives

**In February 2003, the States approved the Corporate Housing Programme (CHP) to translate the agreed Housing Strategy into action. Six action areas form the core components of the programme, one of which is to establish an authoritative system for collating information about housing, in order to monitor and review the effectiveness of the Corporate Housing Programme (CHP). The programme will include targets relating to housing quality, housing availability, housing affordability and environmental impact.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 1, Section 3.3 and Appendix III.

2003 Policy and Resource Plan, Part 2, Strategic Land Use Plan – Strategic Housing Policies.

### What is Measured

Housing quality on the Island is measured annually through the number of units the Environmental Health Department finds to be substandard. The use of previously developed land is used as a way of assessing the impact that house building is having on the Island. The States housing waiting list is used to indicate the demand for social housing on the Island. The affordability of housing for Islanders is measured through the housing affordability index, which compares earnings, interest rates and house prices over the last fifteen years.



## Indicator 1: Quality of Housing

### Indicator Measure

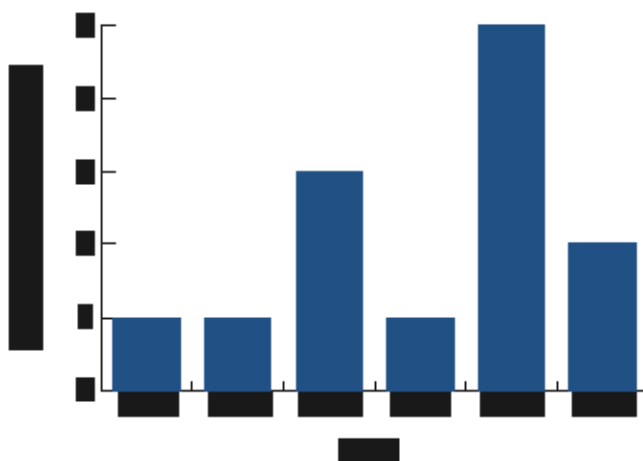
#### Number of substandard housing units

Quality of housing is essential to a decent quality of life. This indicator measures the numbers of houses found to be substandard on the Island. This is defined by the States Environmental Health Department as those housing units considered to be below the minimum requirements expected for decent habitation. Factors assessed include the following: repair, stability, dampness, natural lighting, ventilation, water supply, facilities for storage, preparation and cooking of food, drainage, sanitary conveniences, personal washing facilities, electricity supply installation hazards, overcrowding and means of escape in a fire.

### Indicator Data

The number of housing units where the Environmental Health Department is called in by the tenant and are consequently found to be substandard is shown in **Figure 23**. The numbers have dropped from five properties in 2002 to two properties in 2003.

**Figure 23: Number of Housing Units Found to be Substandard**



Source: Health and Social Services Department

### Indicator Analysis

Over the last six years that monitoring has taken place the number of substandard housing units on the Island has fluctuated between one and five houses a year.



# Housing

## Indicator 2: Use of Previously Developed Land for House Building

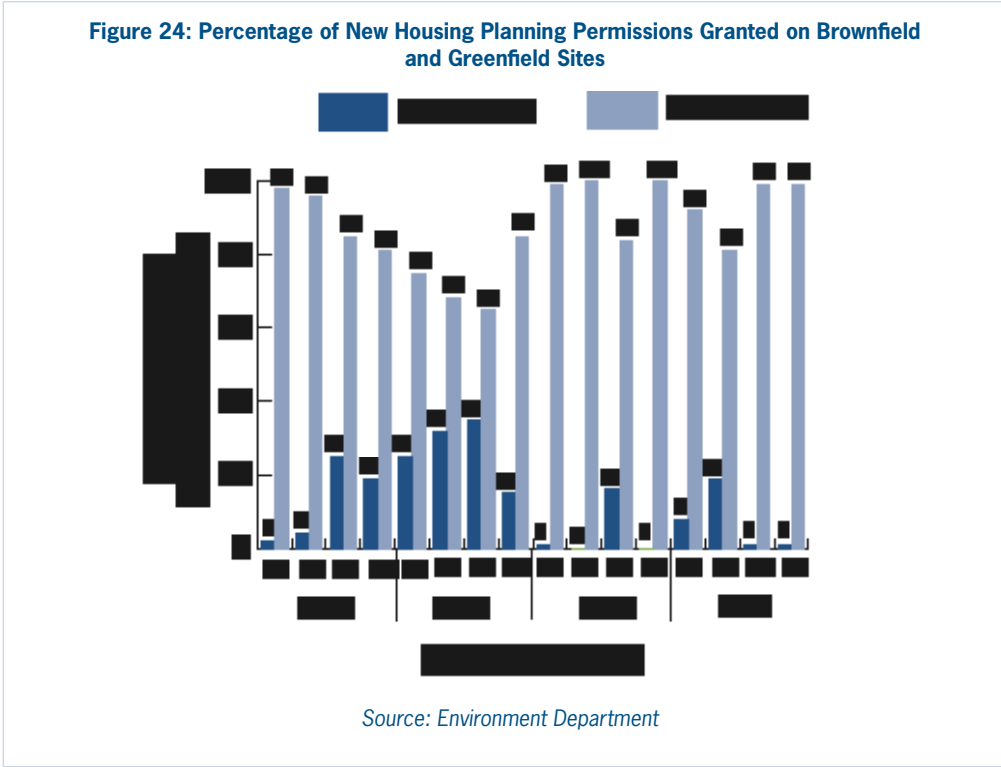
### Indicator Measure

The percentage of new buildings being constructed on previously developed land.

Given the limited land resources on the Island, it is important, where possible, to minimise the impact upon the environment by using land that has been previously developed. Previously developed land, also known as brownfield land is defined by the Land Use Planning Department’s Rural Area Plan as:

*“Land which is, or was, occupied by a permanent building or structure and infrastructure such as roads. It also includes land within the curtilage of an existing building. It does not include land used for agricultural or horticultural purposes, fortifications, or sites where a structure is disused and now forms an integral part of the open landscape.”*

### Indicator Data



Approvals for new housing granted by the Environment Department (formerly IDC), (**Figure 24**), show that over the last four years the majority of granted applications has been made for previously developed (brownfield) land. Over the four year period a comparatively high percentage of housing was granted on greenfield sites in the first two years 2000 — 2001, peaking at 35% greenfield development in quarter three of 2001.

## Indicator 2: Use of Previously Developed Land for House Building

### Indicator Data

Figures for 2002 — 2003 show a much sharper divide, with a rolling average over the two years of 94% of applications granted for previously developed land. Three out of four quarters in 2002 show a figure above 99% for applications granted for previously developed land. This trend has been maintained in the last two quarters of 2003 where 99% of applications granted have been made for previously developed land.

### Indicator Analysis

Building on previously developed land keeps the impact of development to a minimum. This is crucial if Guernsey is to maintain its rural character, as any greenfield development permanently changes the character of that land.

This indicator shows that the vast majority of new housing development granted by the Environment Department (formerly IDC) over the last two years has been on previously developed land. This housing has been provided largely through redevelopment schemes, conversion of buildings or sub-division of houses. However, for a period lasting just over a year, in 2000 — 2001 over a quarter of all applications granted were on greenfield land.



# Housing

## Indicator 3: Availability of Subsidised Housing

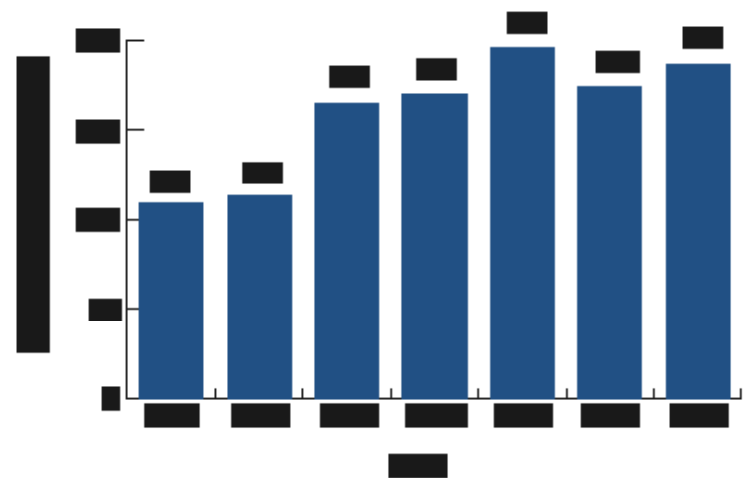
### Indicator Measure

#### The number of people on the States housing waiting list.

Recent research has re-emphasised the importance of providing social rented housing in Guernsey<sup>3</sup>. Making available housing which enables people on lower levels of income to access quality accommodation is a core element in the mix of housing provision. At present this is defined as the number of houses available for rental from the Housing Department, but in due course will also include properties provided by housing associations.

### Indicator Data

Figure 25: Number of Applications on the Waiting List for Subsidised Housing



Source: Housing Department

The number of applications on the waiting list for Housing Department accommodation increased from 174 to 187 during 2003 (Figure 25), the second highest number recorded over the last seven years. In 1999 the list increased from 113 to 165, a 46% increase. Despite fluctuating since then, the list has never fallen below that figure. The highest figure during this period was in 2001 with 196 people waiting for States Housing.

<sup>3</sup> M Parr, 2002, Housing Market Study, and D Gordon, 2002, Anti-Poverty Policies

## Indicator 3: Availability of Subsidised Housing

### Indicator Data

In 2003, 86 persons surrendered States' tenancies, of whom 36 moved to the private sector, either to purchase or rent. 48 properties were allocated to people on the waiting list during 2003. The total number of houses for rental from the States Housing Authority at the end of 2003 was 2,083.

### Indicator Analysis

Three former Housing Authority sites are currently being redeveloped by the Guernsey Housing Association to provide predominantly social rented accommodation. The first of these developments is due for completion in the summer of 2004. The three sites will provide 152 dwellings, a net increase of 61 dwellings. As 75% of Housing Association developments that are funded by the Housing Department will be occupied by Department nominees, (either persons from the waiting list or existing tenants), it is anticipated that these new developments will help reduce the number of people on the States waiting list.

The Department is also in the process of developing, in conjunction with the Guernsey Housing Association and other parties, schemes to provide additional affordable housing, both for rent and for purchase. The first of these – Partial Ownership – was presented to the States in March 2004.



# Housing

## Indicator 4: Affordability of Housing

### Indicator Measure

#### Guernsey's affordability of housing index

The level of owner occupation on the Island is high compared with the UK and European Continent. The 2001 Census recorded that 72% of households are owner occupiers. According to the Housing Needs Survey, "it is an aspiration of the Island's community to be able to own a house". The ability to own a dwelling depends on the economic circumstances of the population. A change in the ratio between prices of residential property and the level of average earnings are key factors in monitoring community and economic sustainability.

### Indicator Data

Table 15: Guernsey Housing Affordability Index

Year	Price/Earnings Ratio	Base Rate +1.5%	Affordability Index
1981	4.9	16.0	78
1982	4.5	12.9	58
1983	4.2	11.5	48
1984	4.7	11.8	55
1985	4.6	13.5	62
1986	4.9	11.5	56
1987	5.9	10.5	62
1988	6.3	9.5	60
1989	8.4	15.5	130
1990	7.5	15.5	109
1991	6.7	13.5	90
1992	5.9	11.5	68
1993	5.5	7.5	41
1994	5.3	7.0	37
1995	5.5	8.3	45
1996	5.9	7.5	44
1997	6.7	8.3	55
1998	6.9	8.8	60
1999	6.8	7.0	48
2000	7.5	7.5	56
2001	8.2	6.5	53
2002	9.0	5.5	50
2003	9.2	6.5	48
Average Over the period			61

Source: Policy Council, Policy & Research Unit

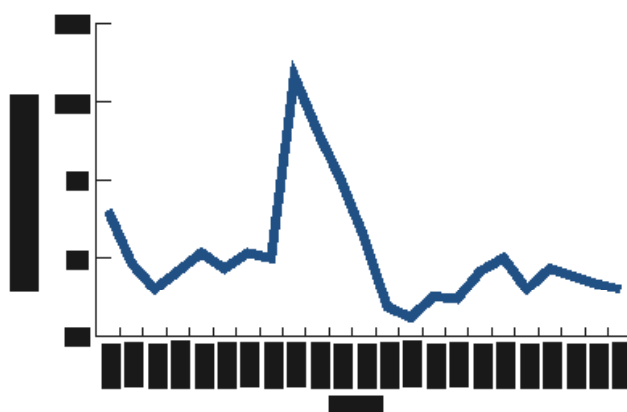
## Indicator 4: Affordability of Housing

### Indicator Data

This affordability index provides a broad indication of the cost of purchasing a local market property, taking into account average earnings and interest rates. Its purpose is to scale the changes in housing affordability on the Island. It represents the percentage of gross average income that interest payments would take if the purchaser bought the average house, on the average income, taking out a 100% loan to value (LTV) mortgage. When the index exceeds 100 it means that gross interest payments are larger than the gross income of the borrower, i.e. the cost of paying the mortgage instalments is more than the borrower's income.

The indicator (**Table 15 and Figure 26**) shows that housing has become relatively more affordable in recent years, with the 2003 index figure of 48 falling below the fifteen-year average figure of 61. The index also shows that during 1989 to 1991 the index exceeded 100 indicating that average mortgage costs were higher than average income. At this time the economy dipped into recession causing some homeowners servicing large mortgages to be caught in negative equity.

**Figure 26: Housing Affordability Index**



Source: Policy Council, Policy and Research Unit

Rises in house prices must be taken in context with the rise in average earnings, and the cost of repaying a mortgage (bank interest rates). The affordability index shows that despite house prices rising Islanders are still in a relatively better position to afford housing than was the case for a number of years in the early 1990s.

### Indicator Analysis



# Housing

## References and Further Reading

### Further Reading

#### **A Study of the Guernsey Housing Market**

M. Parr, Law and Economics Consulting Group (LECG), 2002.  
Advisory and Finance Committee and the Housing Authority.

#### **The Housing Needs Survey**

Housing Department

#### **Survey of Guernsey Living Standards**

Anti-Poverty Policies – A Range of Possible Options for Guernsey  
D. Gordon., et al,  
University of Bristol,  
November 2002.  
This report may be downloaded from  
[www.gov.gg](http://www.gov.gg)

### Organisations

#### **Health and Social Services Department**

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GY4 6UU  
Tel: 717200  
Fax: 717099

#### **Guernsey Housing Association**

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St Martin  
Guernsey  
GY1 3RG  
Tel: 237700

#### **Land Use Planning Department**

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Sir Charles Frossard House  
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#### **Housing Strategy and States Housing / Guernsey Housing Association**

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### Snapshot

- Total reported crime levels for 2003 fell by 14% when compared to 2002 figures, the first decline in total crime figures in four years.

### Trends

The incidents of violent crime continue to remain high representing 16% of the total crime figures for 2003.

Falls in other categories apart from drugs offences (which remained stable) has meant that total crime figures for 2003 fell by 14% on 2002 figures.

Out of the categories monitored, sharp annual falls of 43% in the case of domestic burglaries, 40% in theft from vehicles and 50% in taking vehicles without the owners consent underline an overall trend in the reduction of crime upon personal property. This fell from 22% of the 2002 total crime figures to 14.6% of the total 2003 crime figures.

Guernsey residents personal “fear of crime” as measured in the 2001 Island Living Standards Survey showed that 26% of people felt unsafe on Island streets after dark and 7% felt unsafe in their home.

### Connections

Domestic violence has an adverse affect on the community, for example impacting on family life especially children’s health, safety, mental wellbeing and consequently their **educational achievement**.



[see page 37](#)

Crime levels have been linked to poverty in a number of ways. The 2001 Survey of Guernsey Living Standards highlights:

*“People living in poverty bear the brunt of most crime: 39% of those living in poverty experienced crime in the previous year compared to only 33% of those not poor. Poor people were nearly twice as likely to feel ‘fairly’ or ‘very’ unsafe when on the streets and 1.7 times more likely to feel unsafe when at home than those not living in poverty”*

Other examples of connections include:

Crime has negative connections to the sustainability of the Island’s **health** via its impact on quality of life.



[see page 21](#)

Crime and the fear of crime also has an effect on **economic performance** by impacting on the costs associated with such offences as theft and drug trafficking.



[see page 81](#)

# Crime

## Connections, Policy Objectives and What is Measured

### Policy Objectives

**Public Order** — To improve the public's perception of the Town environment, and dispel the fear of crime and disorder.

**Drug and Alcohol Abuse** — To reduce the number of drug offences, especially of class A and B drugs; developing the role of the Drugs Liaison Officer to help reduce drug offences.

**Crime** — To reduce the total number of recorded crimes, by improving and increasing crime detection rates.

### Policy Plan Reference:

2003 Policy and Resource Plan, Appendix 1, Corporate Policy on Law and Order.

### What Is Measured

This indicator measures the number of annually recorded offences for:

1. Violent crime – assault / murder / rape / gross indecency;
2. Drug offences;
3. Theft from vehicles;
4. Taking vehicles and driving them away without the owner's consent; and
5. Domestic burglaries.

The number of cases of domestic violence dealt with by the Family Protection Unit are also measured. However, the term “domestic violence” does not describe a reported offence or crime, unlike the offences listed in items 1 to 5 above. For example, the actions can be psychological rather than physical assault. These cases may not have resulted in a crime being committed or reported. They should not be compared to the cases of reported crime listed in items 1 to 5 above.

These categories represent 50% of total Island crime. A total figure of all recorded crime, including driving offences and corporate summary offences is also measured.

Guernsey residents' fear of crime after dark, both on the streets and in their own homes is measured using the Survey of Guernsey Living Standards.

## Indicator 1: Crime Levels

### Indicator Measure

#### Reported crime on the Island using data sourced by Guernsey Police

For the purposes of this document an agreed set of five categories has been selected to represent an overview of the total crime figures. The categories were selected due to the social nature of the crimes they represent, and make up about one half of the Island's total crime figures. The categories monitored are:

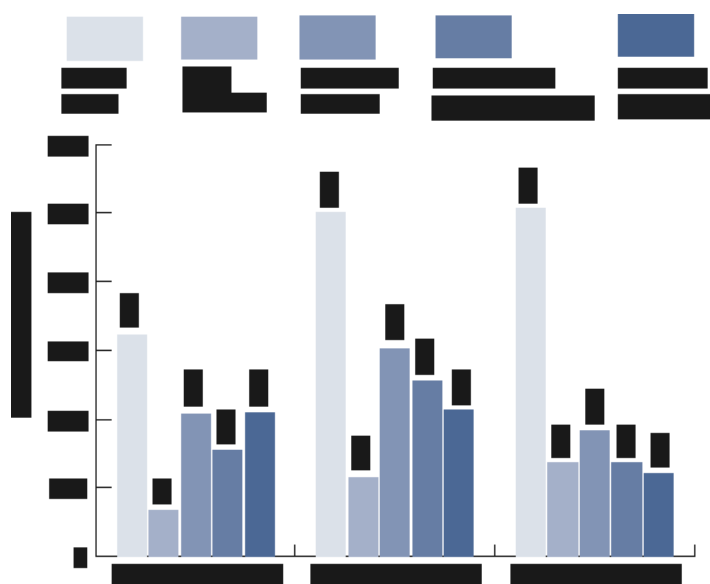
1. Violent crime – assault/murder/rape/gross indecency;
2. Drug offences;
3. Theft from vehicles;
4. Taking vehicles and driving them away without the owner's consent; and
5. Domestic burglaries.

Cases of Domestic Violence reported to the Family Protection Unit are also recorded.

### Indicator Data

**Figure 27** shows an overview of the five categories monitored and indicates that violent crime carries the highest recorded number of offences and has done so for the last three years.

**Figure 27: Number of Offences by Selected Category  
2001 to 2003**



Source: Guernsey Police

# Crime

## Indicator 1: Crime Levels

### Indicator Data

Figure 28: Violent Crime

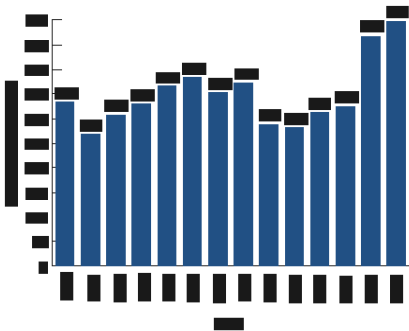


Figure 29: Drug Offences

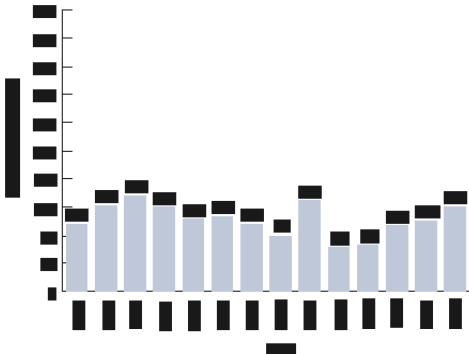


Figure 30: Domestic Burglaries

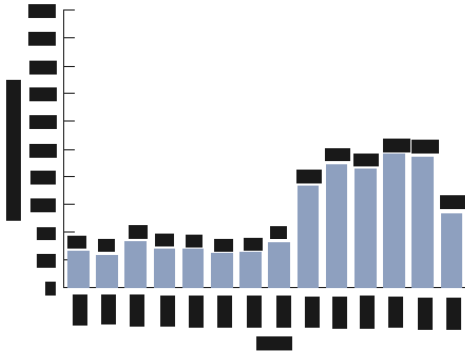


Figure 31: Theft from Vehicles

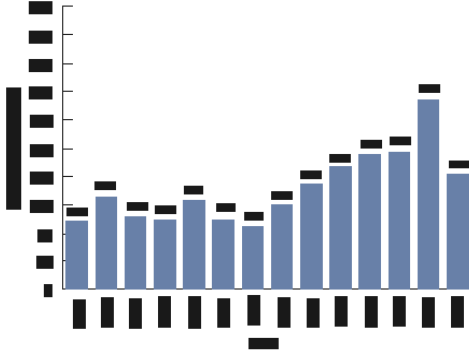
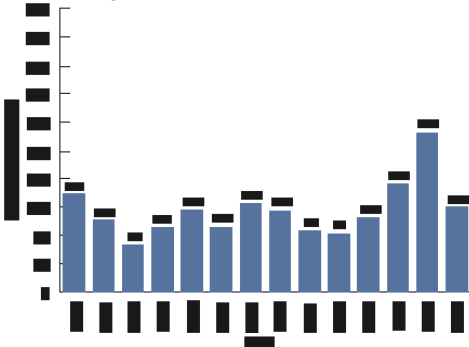


Figure 32: Taking Vehicles and Driving Them Away Without the Driver's Consent



Source: Guernsey Police

## Indicator 1: Crime Levels

## Indicator Data

Following a prominent rise in recorded **violent crime** in 2002 (**Figure 28**), levels have remained at that peak, rising very slightly in 2003. The 2003 figure is the highest violent crime figure recorded over the last 13 years. Violent crime represents 17% of the total crime figures for Guernsey in 2003. The recorded incidents of violent crime do include those cases where no actual injuries are sustained, although they can be potentially distressing.

The number of **drug offences** peaked in 1992 (152 offences) (**Figure 29**). Since this date, the number of drug offences subsequently declined, but rose again in 1998 (146). This was followed by a dramatic 50% fall the following year (1999). Since 1999 the number of drug offences has steadily risen by 54% over the last five years. Drug offences stand at 4% of Guernsey's total recorded crime figures for 2003.

After five consecutive years (1998-2002) of peaking at figures over 50% higher than previously recorded, **domestic burglaries** have fallen sharply in the last year by approximately 43% on 2002 figures (**Figure 30**). Domestic burglary represents 4% of Guernsey's total crime figures.

**Theft from vehicles** in 2003 fell by nearly 40% from the 2002 figure. This figure had reached a peak after rising by 200% in the six years from 1996 (**Figure 31**). Theft from vehicles represents 6% of total crime figures recorded for Guernsey in 2003.

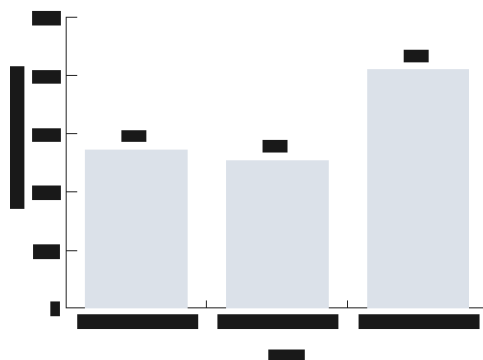
**Taking vehicles and driving them away without the owner's consent** has fallen in 2003 by almost 50% on the 2002 figure, marking the end of a steady rise of almost 200% in the previous five year period (**Figure 32**). Taking vehicles and driving them away without the owner's consent represents 4% of total crime figures for 2003.

# Crime

## Indicator 1: Crime Levels

### Indicator Data

Figure 33: Cases of Domestic Violence Reported



Source: Guernsey Police

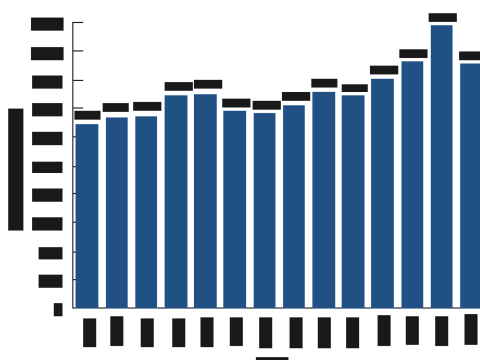
**Figure 33** shows that there has been a rise in the number of cases of domestic violence reported. This may well be a result of the establishment of the Family Protection Unit and the encouragement of the reporting of incidents of domestic violence. It is too early to say whether actual levels of domestic violence have risen.

### Indicator Analysis



Total crime figures for Guernsey have fallen over the last year by 14%, marking the first decline in crime figures for four years (**Figure 34**).

Figure 34: Total Crime for Guernsey



Source: Guernsey Police

The categorised crime levels (which account for around half of the total 2003 crime figures) show that high levels of violent crime in 2003 have been compensated for by declines in crimes connected with theft or damage to personal property. 2003 figures show a 43% decline in domestic burglary, a 40% decline in theft from vehicles and a 50% decline in the taking of vehicles and driving them away without the owner's consent.

Indicator 2: Public Fear of Crime

Indicator Measure

The Percentage of people feeling unsafe on the Island's streets or in their home

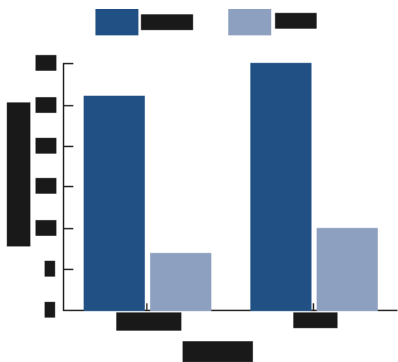
“Fear of Crime” is a label used to describe the concerns and anxieties that people have about crime in their local area. It has become an increasingly recognised issue that is quite aside from the actual levels of crime that may be presently experienced in the area.

There are many ways of measuring “fear of crime” in the population. One of the most common ways of assessing it is to ask respondents how safe they feel when walking alone in their neighbourhood after dark and whether they feel safe when alone in their own home at night. This question was asked in the survey of Guernsey Living Standards<sup>1</sup> as a way of evaluating the intimidation and apprehension people feel about the areas in which they live.

Indicator Data

One in four people (26%) expressed feeling “a bit” or “very” unsafe when on the streets after dark in Guernsey, compared to 30% in Britain (Figure 35), whilst 7% said that they felt unsafe when alone at home on the Island, compared to 10% in Britain.

Figure 35: Percentage of People Feeling Unsafe on the Streets or at Home (2001)



Source: Survey of Guernsey Living Standards

Guernsey’s fear of crime is very similar to that experienced in Britain; whilst people feel generally quite safe in their homes fear of crime in the street is considerable. Over a quarter of those surveyed on the Island felt unsafe when out on the streets. A follow up survey is being planned by Guernsey Police to monitor the changes in the perception of crime.

Indicator Analysis



<sup>1</sup> Survey of Guernsey Living Standards, Townsend Centre for International Poverty Research, University of Bristol, 2002

## References and Further Reading

### Further Reading

#### **The 2003 Police Statistical Digest**

Published by Guernsey Police

#### **The Survey of Guernsey Living Standards**

Townsend Centre for International Poverty Research, University of Bristol, 2001.

A copy of this report may be downloaded from [www.gov.gg/esu](http://www.gov.gg/esu)

### Organisations

#### **Home Department**

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# Economic Performance

## Headline Indicator

### Snapshot

- Whilst the Island's GDP remains strong, growth in 2002 fell for the first time in real terms (that is allowing for inflation) for twelve years. However, growth in 2003 has been strong returning overall GDP to 2001 levels.
- The rate of Inflation continues upwards, broadly similar to Jersey, and higher than the UK.
- 54% of the Island is economically active and unemployment remains very low.
- Average Earnings have risen by 4.4% in 2003

### Trends

The health of the economy as measured by Gross Domestic Product (GDP) showed falls in reflat figures from 2001 to 2002 of 3% from £1,392 million to £1,351 million. However, this recovered in 2003 to stand at £1,386million a rise of 3% over 2002 figures. Long-term inflation figures appear cyclical, and at the moment are continuing to rise, rising by 4.2% in the last year. Average earnings on the Island continue to rise (by 4.4% in 2003), albeit not at as high a rate as in previous years.

Economic activity remains high with 54% of the population employed. Economic activity amongst women has increased by over 15% in the last 15 years. The finance industry continues to be the Island's major employer and unemployment remains very low at between 82 and 154 people during 2003.

### Connections

Economic performance connects with many social and environmental indicators. It impacts on facets of community life and the Island's environment, for example, energy consumption, waste, transportation, workforce development, health and education. The implementation plan agreed at the World Summit for Sustainable Development 2002 included a commitment to:

*"encourage and promote the development of a 10-year framework of programmes in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production ... delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes".* United Nations WSSD Johannesburg 2002, Sustainable Development in Action, [www.johannesburgsummit.org](http://www.johannesburgsummit.org).

Efficiency and the efficient use of the Island's resources is a primary economic driver, linking economic performance with **energy consumption, household waste, local and international transport and land use.**

**see pages 97,  
183, 193,  
109, 171**

# Economic Performance

## Connections, Policy Objectives and What is Measured

### Connections

*“At the heart of achieving a sustainable economy is resource efficiency; it is what our strategy calls a ‘key to change’. Often it is the environmental impacts of resource use, which are of most concern. Fossil fuel use is already causing climate change; we are producing volumes of waste which can be expensive and increasingly difficult to dispose of and generating more traffic than roads and many communities can cope with.”* Review of progress towards sustainable development - Government annual report 2002, DEFRA, [www.sustainable-development.co.uk](http://www.sustainable-development.co.uk).

see pages  
21, 37, 63, 117



Equity and the provision of **health, education, housing** and satisfactory **workforce development** are all linked to the overall strength and sustainability of the Island's economy.

*“We can't afford to see economic success as being necessarily in conflict with social and environmental goals, and we don't need to see those things as being in conflict either. We have learnt that creating a fairer society and a dynamic economy go together. And that caring for the environment can create jobs.”* UK Government's Minister for e-Commerce and Competitiveness, Stephen Timms, October 2002, [www.sustainable-development.co.uk](http://www.sustainable-development.co.uk).

### Policy Objectives

**The Economic Policy Working Group has the remit for reviewing various economic policies in order to maintain a stable and diverse economy, ensuring a balance between conservation of the Island's natural heritage and the needs of the Island's community.**

Policy Plan Reference:

2003 Policy and Resource Plan, Part 1, Section 4 – Economic Projects.

2003 Policy and Resource Plan, Part 1, Section 3.1.17 – Economic Policy Working Group.

### What is Measured

The annual percentage change in the Island's GDP is monitored using annually reflatd figures and per capita figures. Inflation is monitored using the change in the Island's Retail Prices Index as wage agreements, pensions and changes in benefit levels are often linked to the Index. Employment, unemployment and economic activity on the Island, are all measured in order to provide an indication of the 'health' of the labour market. Finally, the percentage change in average earnings is monitored in order to show personal incomes by economic sector.

### Indicator Measure

#### Annual percentage change in the Island's Gross Domestic Product (GDP)

National Income Accounting is a common method of measuring the overall wealth of an economy. Comparing annual percentage changes in Gross Domestic Product (GDP) gives an indication of the growth of the economy over time. At a strategic level, it is a key tool in assessing the economic vitality of the Island, however it is important to note that it does not reflect environmental or social costs within its calculations and so must be understood purely in terms of economic transaction.

### Indicator Data

While GDP fell between 2001 and 2002, it subsequently recovered to £1,386m in 2003 (**Table 16**). Refflated GDP fell by £41m between 2001 and 2002, but recovered by an estimated £35m during 2003.

**Table 16: Annual % Changes in Refflated Gross Domestic Product (GDP) - 1991 to 2003**

Year	GDP (£m's)	Refflated GDP (2003 Values) (£m)	% Refflated Annual Change
1991	685	993	
1992	703	988	-1
1993	712	897	0
1994	750	1,016	3
1995	817	1,067	5
1996	867	1,102	3
1997	955	1,161	5
1998	1,024	1,205	4
1999	1,130	1,298	8
2000	1,222	1,352	4
2001	1,283	1,392	3
2002	1,300	1,351	-3
2003*	1,386	1,386	3

Source: Policy Council, Policy & Research Unit

\* 2003 is estimated

Refflated GDP takes into account the effect of inflation and is generally regarded as "real" GDP

# Economic Performance

## Indicator 1: National Income

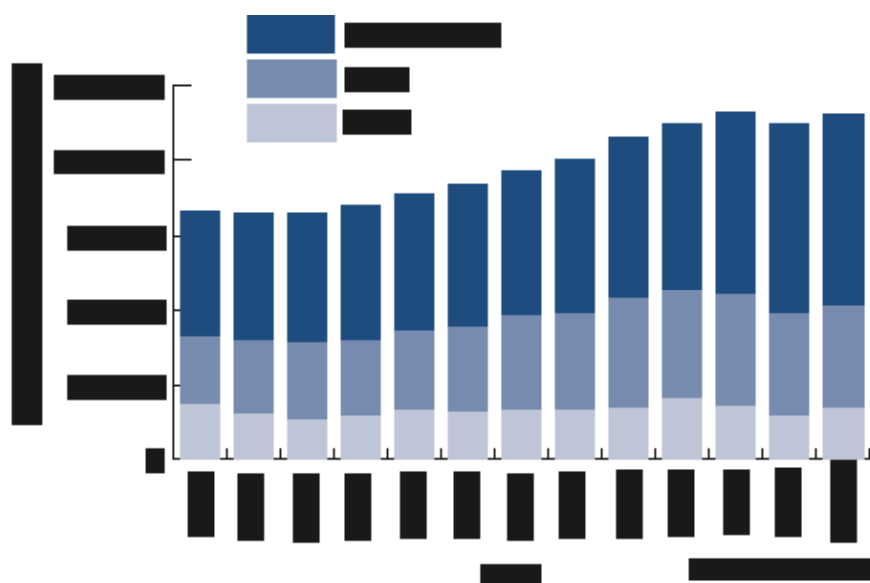
### Indicator Data

GDP is the value of Island income (wages plus profits and other local income from capital). GDP can be viewed as the total of consumer and States spending plus business investment.

#### GDP growth

The components of GDP are made up of business profits, plus the wages paid to employees (remuneration) (Figure 36). The other category includes non-earned income and economic rent. Remuneration forms the largest part of GDP, followed by profits and other income.

Figure 36: Components of Gross Domestic Product at 2003 Prices



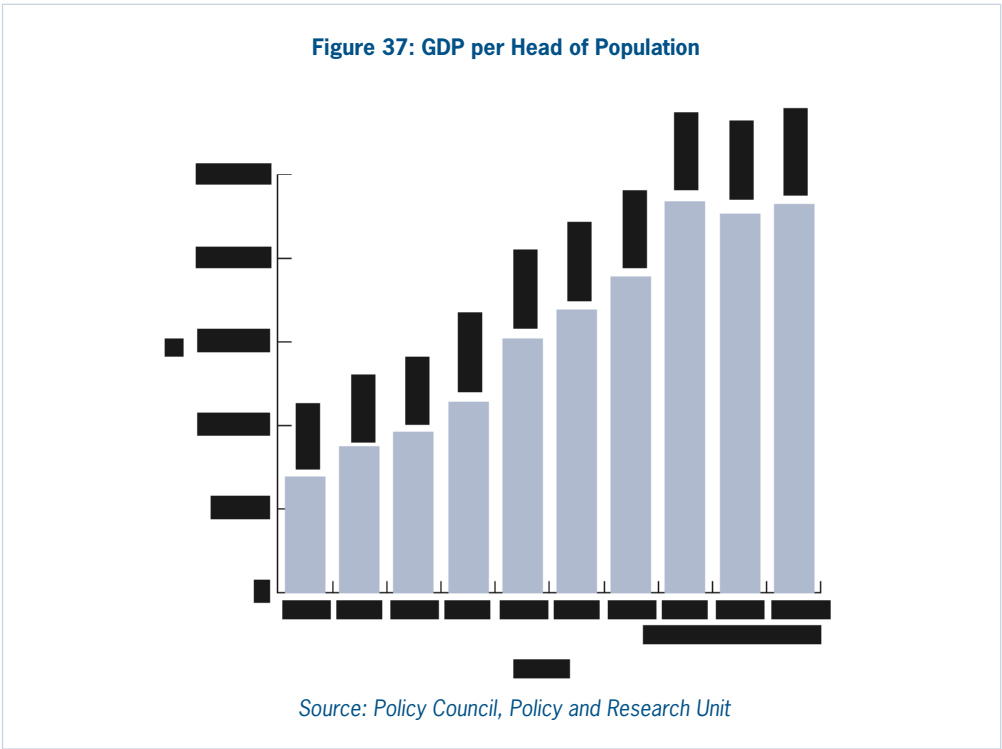
Source: Policy Council, Policy and Research Unit

#### GDP per head

Division of GDP Income by the population gives GDP income per capita or per head of the population which can be used to compare living standards between countries. However, it should be borne in mind that whilst GDP will measure the total amount of income (and hence wealth) in an economy, it does not measure how this income is distributed amongst the population. For instance, a country may have a high GDP per head, but the average income may be much lower than this figure due to the difference in income distribution.

Indicator Data

**Figure 37** shows how per capita income has increased steadily since the 1960s. The figures in the graph are expressed at 2003 prices so taking into account the effects of inflation. It shows that in real terms, GDP per capita in 2001 was the highest recorded in Guernsey.



Guernsey’s GDP per capita figure is lower than that of Jersey’s (£33,600 in 2003), but higher than that of the UK (£18,515 in 2003). However, there are some methodological differences between jurisdictions and this should be considered when comparing values.

Although growth in the economy has slowed down from the peak in 2001, it is estimated to be higher last year than the UK level. The drop in 2002 is likely to be due to several factors affecting world markets such as the September 11th terrorist attacks in New York, and poorly performing stock markets. This affected most finance sectors around the World.

Indicator Analysis



# Economic Performance

## Indicator 2: Island Inflation

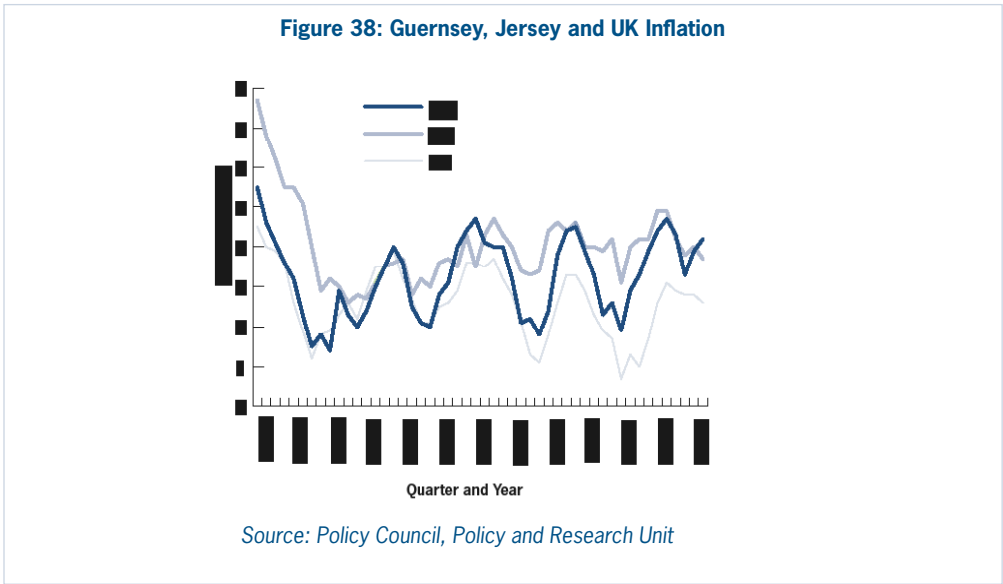
### Indicator Measure

#### Annual percentage change in the Guernsey Retail Prices Index (GRPI)

The Guernsey Retail Prices Index (GRPI) is Guernsey’s principal measure of consumer price inflation. It is defined as an average measure of change in the prices of goods and services bought for the purpose of consumption by the vast majority of households in Guernsey. It is compiled and published quarterly in March, June, September and December. Monitoring change in inflation is important in assessing the Island’s competitive position and the sustainability of the economy. Wage agreements, pensions and changes in benefit levels are often linked to the GRPI.

### Indicator Data

As depicted in **Figure 38** and **Table 17** the overall trend in Guernsey’s level of inflation has been cyclical, following similar trends to the UK. However, since the third quarter of 2001, both Jersey’s and Guernsey’s rate of inflation compared with the UK, has differed with a greater variance. The Channel Islands have generally experienced a higher rate of inflation. Over the last five years, cumulatively, the Island’s RPI has risen by 20.3% compared to 22.4% for Jersey and 12.5% in the UK.



Over the last four years the annual percentage change in the RPI has fluctuated between 1.8% and 4.7% - on average 1% higher than the UK, but lower than Jersey. However, in the second quarter of 2003 and the 1st quarter of 2004 it rose above Jersey’s inflation. The RPI dropped after a slight rise from the last quarter of 2002 in Guernsey and the UK, and remaining the same in Jersey. After March 2003, the figure has slightly fallen for the next two quarters before rising in the final quarter in Guernsey and Jersey but remaining

### Indicator Data

the same in the UK. The final figure in the table for March 2004, shows a rise of 0.3% in Guernsey, a decrease of 0.3% in Jersey and a decrease of 0.2% in the UK.

Care should be taken in making direct comparisons between the three jurisdictions, as although the broad principles behind calculating the RPI are the same, there are differences in patterns of expenditure as well as slight methodological variations between jurisdictions.

**Table 17: Annualised Quarterly Changes in the Retail Prices Index Compared with Jersey and the UK**

		Annual Percentage Change Compared to the Same Quarter One Year Previously		
		Guernsey	Jersey	UK
1999	Quarter 1	2.1	3.4	2.1
	Quarter 2	2.2	3.3	1.3
	Quarter 3	1.8	3.4	1.1
	Quarter 4	2.4	4.4	1.8
2000	Quarter 1	3.8	4.6	2.6
	Quarter 2	4.4	4.4	3.3
	Quarter 3	4.5	4.6	3.3
	Quarter 4	3.9	4.0	2.9
2001	Quarter 1	3.3	4.0	2.3
	Quarter 2	2.3	3.9	1.9
	Quarter 3	2.6	4.2	1.7
	Quarter 4	1.9	3.1	0.7
2002	Quarter 1	2.9	4.0	1.3
	Quarter 2	3.3	4.2	1.0
	Quarter 3	3.9	4.2	1.7
	Quarter 4	4.4	4.9	2.9
2003	Quarter 1	4.7	4.9	3.1
	Quarter 2	4.3	4.2	2.9
	Quarter 3	3.3	3.8	2.8
	Quarter 4	3.9	4.0	2.8
2004	Quarter 1	4.2	3.7	2.6

Source: Policy Council, Policy and Research Unit

Inflation trends indicate a continuation in the rise of the “typical basket” of goods and services on the Island. This is also reflected in Jersey, but less so in the UK. The variance between Guernsey and the UK last year has become more acute. Inflation has occurred at a higher level in the Channel Islands compared with the UK.

### Indicator Analysis



# Economic Performance

## Indicator 3: Economic Activity

### Indicator Measure

#### Employment and unemployment in Guernsey

Monitoring economic activity over time in terms of employment is a key indicator of the “health” of the labour market, the wider economy and social well-being. The number of people who are “economically active” are contributing to the economy of the Island. Unemployment is always a concern for governments not only regarding economic considerations such as contributing to the economy, but also the social fabric of the community.

### Indicator Data

Economic Activity concerns human capital, i.e. the contribution to the economy by the working population. By far the most common activity is the economic activity in which persons are paid directly for the work they do. According to the 2001 Guernsey Census, a total of 32,293 persons (54%) were economically active out of the population of 59,807. This 54% compares to 52% in 1996 and 51% in 1991.

Of the 32,293 who were economically active, 28,139 were employees, and 4,154 were self-employed (**Table 18** and **Table 19** below) As the economy has developed in recent years there has been a shift towards people working as an employee rather than being self-employed.

**Table 18: Number of People in Employment (Census)**

	1976	1981	1986	1991	1996	2001
Employees	20,999	22,212	23,282	26,017	26,691	28,139
Self-employed (Employing Others)	1,882	1,821	1,738	1,950	1,882	1,979
Self-employed (Not Employing Others)	2,696	2,371	2,669	2,195	2,120	2,175
<b>Total</b>	<b>25,577</b>	<b>26,404</b>	<b>27,689</b>	<b>30,162</b>	<b>30,693</b>	<b>32,293</b>

*Source: 2001 Guernsey Census: Policy Council, Policy and Research Unit*

1,448 more were employed in 2001 as employees than in 1996 and this increase accounted nearly entirely for the 1,600 increase in the economically active. Self-employment whether as a sole trader or through employing others has stayed about the same in number over the last decade.



**Table 19: Percentage of People in Employment (Census)**

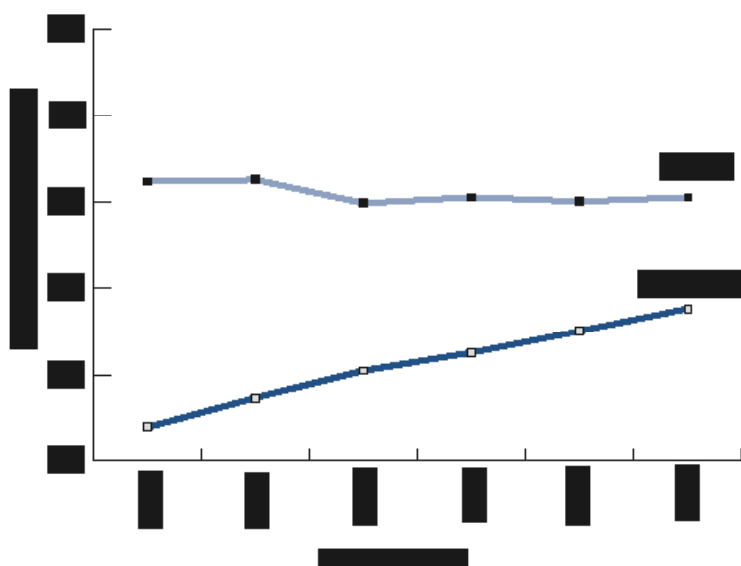
	1976	1981	1986	1991	1996	2001
Employees	82.1	84.1	84.1	86.2	87.0	87.2
Self-employed (Employing Others)	7.4	6.9	6.3	6.5	6.1	6.1
Self-employed (Not Employing Others)	10.5	9.0	9.6	7.3	6.9	6.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: 2001 Guernsey Census: Policy Council, Policy and Research Unit

### Economic activity amongst males and females

Economic activity amongst all females in the population has increased from 34% in 1976 to 48% in 2001. This may be attributed to changes in a number of social factors, including increasing demands on family budgets (e.g. housing costs), and women staying at work longer before starting a family. At the same time, male economic activity has remained virtually unchanged in percentage terms ([Figure 39](#)).

**Figure 39: Percentage of Males and Females Economically Active**



Source: Guernsey Census: Policy Council, Policy and Research Unit

# Economic Performance

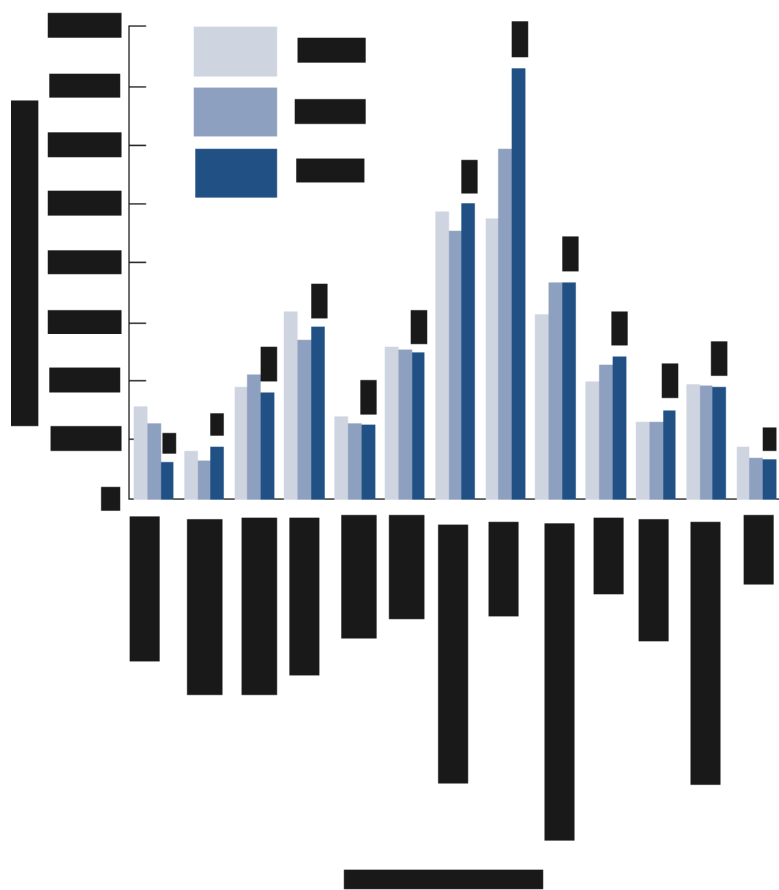
## Indicator 3: Economic Activity

### Indicator Data

#### Employment by economic sector (2001 Census)

Since 1991 those employed in service industries, notably finance, recreation, business, health and educational services have increased (**Figure 40**). Most people are employed in those economic sectors containing finance, private services and public services. The primary (13% of the economy) and secondary (10%) sectors of the economy are now quite small compared to the tertiary or service sector (77%).

Figure 40: Economic Activity by Economic Sector for Three Census Years - 1991, 1996 and 2001



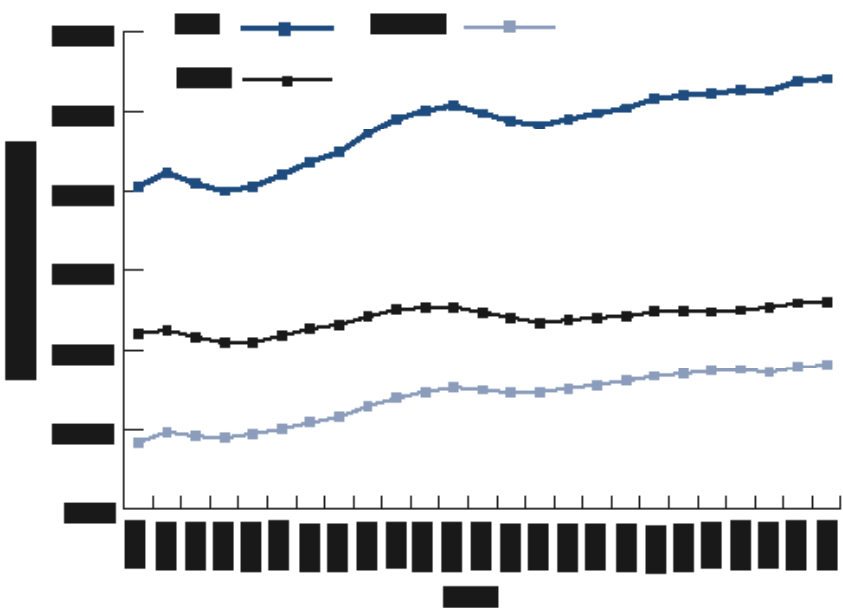
Source: Guernsey Census: Policy Council, Policy and Research Unit

Employed persons

The total of employed persons in Guernsey is shown in **Figure 41** and stands at just under 32,000. The cyclical nature of employment (moving with trends in the wider economy) and the move towards increased female participation in employment can be seen from the peaks and troughs in the graph. The peak of male employment was in 1989, whereas female employment has continued to increase since 1979.

The higher level of female employment follows similar trends in other industrialised countries, and may be attributed to a number of factors including the need for families to gain an extra income, and the growing desire of women to follow a career path.

Figure 41: Employed Population as at September Each Year



Source: Social Security Department

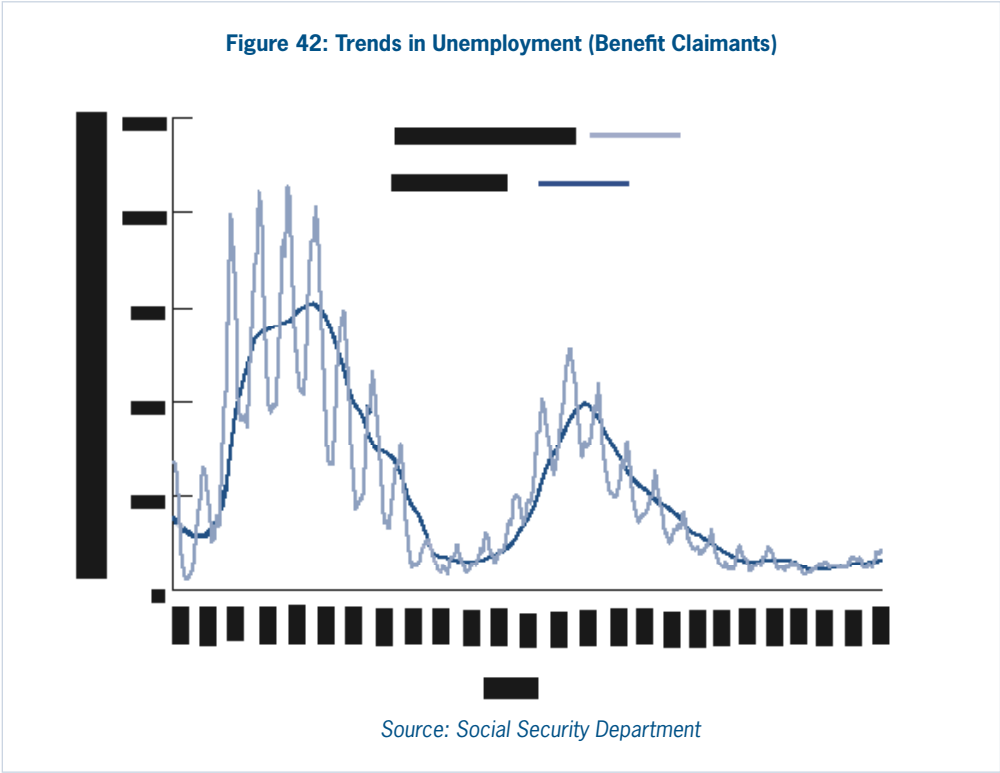
# Economic Performance

## Indicator 3: Economic Activity

### Indicator Data

#### Unemployment

Those registering for unemployment benefit or a credit with the Social Security Department are counted as the unemployed. The cyclical nature of unemployment and the difference between the summer low and winter high can be seen in [Figure 42](#). The moving average smooths out these fluctuations to show longer term trends in unemployment. The level of unemployment has been at or below 100 since 1999. The last period of high unemployment in the Island was during the early to mid 1980s and to a lesser extent during the early 1990s as a result of the last recession. At these times there was a greater fluctuation between summer and winter employment.



### Indicator Analysis



Economic activity is currently on a high plateau with little change in the low levels of unemployment on the Island. A very high proportion of the population is making a contribution to the Island's economy. Female economic activity has increased over the years to add to this contribution and the finance industry has also continued to expand.

Indicator Measure

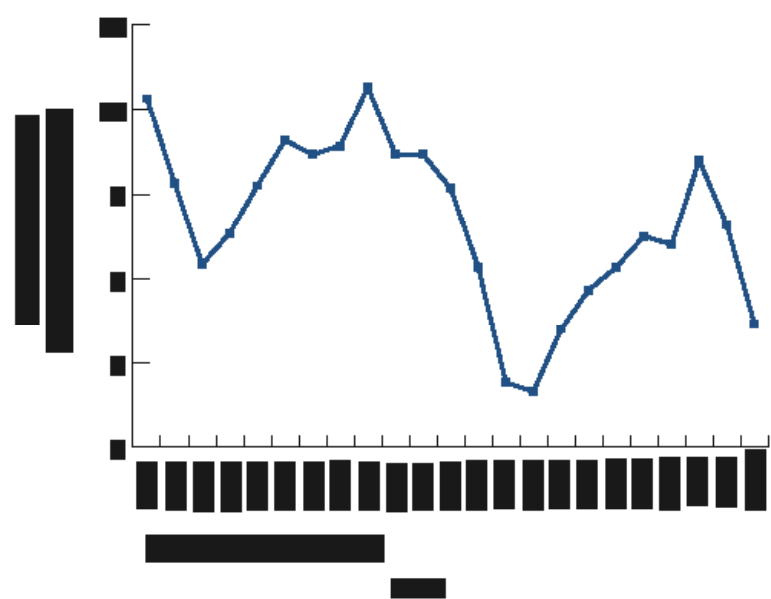
Annual percentage change in average earnings

As a macroeconomic indicator, over time, changes in the level of average earnings provide an indication of the “health” of the economy and the community in terms of personal income. The sustainability of average earnings is dependent upon the performance of the economy and broadly reflects changes in income generation.

Indicator Data

The annual percentage change in average earnings is shown in **Figure 43** and **Table 20**. A two year moving average is calculated to smooth out any annual fluctuations. It shows that relatively high levels of increases in average earnings have been recorded since 1995. The annual increase in average earnings in 2003 was 4.4%. This is less than the 7.9% recorded in 2002 and the 10.2% in 2001, but may be regarded as being at a more sustainable level and is also above the annual inflation figure of 3.9%.

Figure 43: Annual Percentage Change in Average Earnings (2 Year Moving Average)



Source: Policy Council, Policy and Research Unit

# Economic Performance

## Indicator 4: Average Earnings

### Indicator Data

Table 20: Guernsey Average Earnings - 1989 to 2003

	Average Earnings Nominal	Average Earnings (2 Year Moving Average)	2 Year Moving Average Percentage Change
1989	£12,060		
1990	£13,455	£12,758	
1991	£14,713	£14,084	10.4
1992	£16,044	£15,379	9.2
1993	£16,668	£16,356	6.4
1994	£16,808	£16,738	2.3
1995	£17,347	£17,078	2.0
1996	£18,259	£17,803	4.2
1997	£19,337	£18,798	5.6
1998	£20,661	£19,999	6.4
1999	£22,343	£21,502	7.5
2000	£23,737	£23,040	7.2
2001	£27,059	£25,398	10.2
2002	£27,753	£27,406	7.9
2003	£29,453	£28,603	4.4

Source: Policy Council, Policy and Research Unit

**Table 21** gives a breakdown of average earnings for 2003 by each economic sector in the economy. **Table 21** shows that the sector with the highest average earnings was Business Services (which includes architects, surveyors, engineers, estate agents, and business services) (£41,465), followed by Finance (£38,308). The sectors with the lowest earnings were Hostelry (£14,990) and Horticulture (£15,654).

### Indicator Data

Table 21: Guernsey Average Earnings by Economic Sector for 2003

Economic Sector	Nominal Average Earnings
Horticulture	£15,654
Other Primary	£18,526
Manufacturing	£23,064
Construction	£25,424
Utilities	£32,207
Transport	£26,135
Hostelry	£14,990
Supplier/Wholesale	£27,508
Retail	£22,301
Personal Services	£19,740
Recreation/Culture	£20,349
Finance	£38,308
Business Services	£41,465
Information Handling	£37,105
Health	£21,797
Education	£32,812
Public Administration	£32,909
Non-Profit	£21,661
<b>All Sectors</b>	<b>£29,453</b>

Source: Policy Council, Policy and Research Unit

### Indicator Analysis

Whilst the annual percentage increase in average earnings was smaller in 2003 (4.4%) than in 2001 and 2002 (10.2% and 7.9% respectively), it is still growing and at a level which could be more sustainable in the longer term. It should be borne in mind that an average earnings figure for the whole economy does not reflect the different rates of pay applicable to different professions, even within economic sectors. The overall average earnings figure (£29,453) is 17% higher than the Great Britain<sup>1</sup>. In Jersey the annual percentage increase in average earnings was 4.7% (June 2003).



<sup>1</sup> The 2003 New Earnings Survey, gives a figure of £25,170 for Gross Annual Earnings.

# Economic Performance

## References and Further Reading

### Further Reading

#### **The Guernsey Retail Prices Index**

Published quarterly by the Policy Council, Policy and Research Unit

[www.gov.gg](http://www.gov.gg)

#### **The 2001 Census Report**

Policy Council, Policy and Research Unit, 2002. This report may be downloaded from

[www.gov.gg](http://www.gov.gg)

#### **Sustainable Development in Action**

United Nations WSSD Johannesburg 2002,

[www.johannesburgsummit.org](http://www.johannesburgsummit.org)

#### **Review of progress towards sustainable development**

UK Government annual report 2002,

DEFRA,

[www.sustainable-development.co.uk](http://www.sustainable-development.co.uk)

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# Energy Consumption

## Headline Indicator

### Snapshot

- Electricity consumption has risen by 22% over the last ten years.
- Consumption of mains and bottled gas, and oil for transport has remained constant, whilst the consumption of oil for heating and electricity production has declined by 49%.
- Per capita electricity use has risen by 27% over the last ten years.
- Renewable energy is becoming an increasingly viable option for Island residents.

### Trends

The electricity cable link with France that opened in 2000 has resulted in very little electricity needing to be generated on the Island. Due to this, oil importation figures have fallen by 49%, in the last four years. This does not mean that the Island is consuming any less energy, just that the energy consumption costs needed for electricity production have been transferred to the continent.

Electricity consumption continues to rise steadily, around 2% a year. Bottled and mains gas, and oil for transport have remained at similar levels of consumption over the last ten years.

Per capita electricity consumption has risen by 27% over the last ten years, whilst the Island's population has risen by 1.6% in the same time.

Renewable energy, although embryonic, is beginning to establish itself via systems that can feed any excess energy produced back into the Island grid, these include solar and wind systems.

### Connections

On a global scale the use of fossil fuels has been strongly linked to an increase in global temperatures causing **sea level rise** and climate change, which could have considerable impact on **biodiversity**.



[see page 137](#)

[see page 125](#)

*“The need to control atmospheric emissions of greenhouse and other gases will increasingly need to be based on efficiency in energy production, transmission, distribution and consumption and on growing reliance on environmentally sound energy systems, particularly new and renewable sources of energy. All energy sources will need to be used in ways that respect the atmosphere, human health and the environment as a whole.”*

Agenda 21, United Nations Earth Summit: United Nations programme of Action from Rio, 1992.

# Energy Consumption

## Connections, Policy Objectives and What is Measured

### Connections

Energy consumption directly connects to the following indicators:

see pages  
133, 81



**Air Quality and Economic Performance** – “Reducing energy use through energy efficiency programs can provide both immediate action and long-term solutions that will help balance energy supply and demand, stimulate the economy, keep consumer energy bills affordable, and improve air quality.” The Business Council for Sustainable Energy, 2004, [www.bcse.org](http://www.bcse.org)

see page 63



**Housing** - Housing quality and building regulations are central to the future energy efficiency of the Island.

*“Energy use in buildings accounts for between 40% and 50% of the UK’s emissions of carbon dioxide, with housing contributing half of this. 20-30% could be saved through the widespread application of energy efficiency measures which are cost-effective. It is clear that there is a big prize to be had in the building sector.”*

Sustainable Development – The UK Governments Approach, 2004,  
[www.sustainable-development.gov.uk](http://www.sustainable-development.gov.uk)

### Policy Objectives

**To increase the economic and environmental benefits of efficient energy use and renewable energy production.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Appendix 1: Corporate Policy Towards Energy Resources.

### What is Measured

Electricity, gas and oil consumption on the Island is measured, via import figures and metered bill readings. Per capita electricity use on the Island is calculated by dividing current population figures, (based on incremental annual increases between each census period), by the total amounts of electricity (kWh) consumed on the Island each year. Renewable energy is measured according to source, to show the most commonly used sources for the Island.

### Indicator Measure

#### Electricity and Gas consumption in Kilowatt Hours (kWh) and oil imports in litres

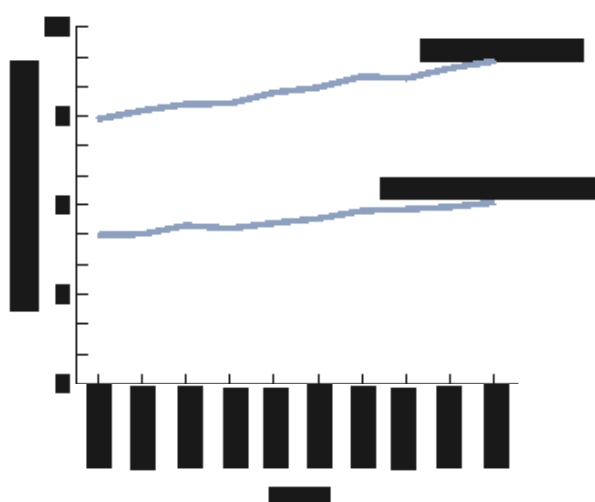
This indicator monitors the quantity of energy consumed by the Island's domestic and private sector customers. It plays an important role in monitoring the Island's adoption of more sustainable consumption patterns.

### Indicator Data

#### Electricity consumption

A kilowatt Hour (kWh) is the standard unit of measure for electricity. One kilowatt Hour is equal to 1,000 watt-hours. The total number of kilowatt Hours charged in an electricity bill is determined by electricity use. For example, if a 100-watt light bulb is used for 10 hours, the charge would be one kilowatt Hour (100-watts x 10 hours = 1,000 watt-hours).

Figure 44: Electricity Consumption in kWh



Source: Guernsey Electricity

**Figure 44** monitors the kWh's of electricity consumed annually by domestic customers and by total customers. Total customers include all commercial as well as domestic users. The figures are arrived at by dividing the number of metered customers by the amount of electricity (kWh) supplied for that year. Domestic consumption is calculated separately and included within the total consumption figures. These figures are approximate, especially the domestic figures as some customers have more than one metering system or a combination of tariffs.

# Energy Consumption

## Indicator 1: Amount of Energy Consumed

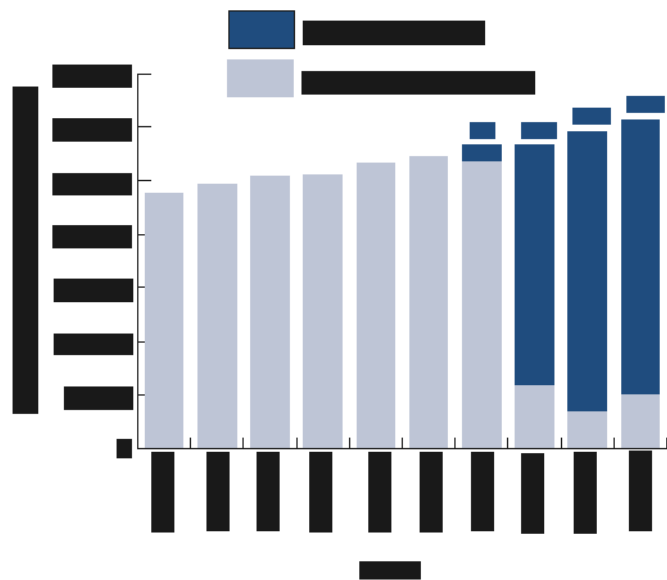
### Indicator Data

Since 1994 domestic electricity consumption has steadily risen by 22% per domestic meter, an average of 2.2% per annum. The only year recording a decline in consumption is 1997 (2%), which subsequently rose back to 4% the following year.

The figures recorded for total customers shows a similarly steady rise to that of domestic customers, 22% since 1994. The only recorded decline in overall consumption figures occurred in 2001, a decline of 1% per customer.

Since 2000 Guernsey has been connected to the European grid via France allowing the Island to import electricity in addition to generating its own. **Figure 45** shows the total annual electricity consumption figures for the Island in terms of production percentages. Until 2000, 100% of the electricity consumed on the Island was produced on Guernsey, over the last four years however this figure has fallen as low as 13% in 2003, rising back up to 20% in 2004.

Figure 45: Total Electricity Consumption Figures, Showing Production Percentages and Amount of Energy Imported



Source: Guernsey Electricity

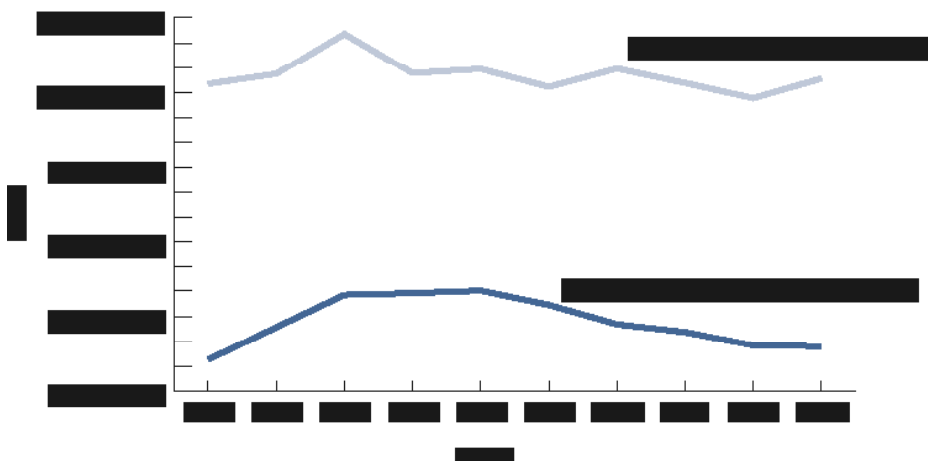
#### Gas consumption

**Figure 46** shows that over the last ten years annual gas consumption supplied through the mains system has fluctuated between 98,500 kWh's and 115,678 kWh's, with an average annual figure of 104,681 kWh's for the ten year period.

The largest annual increase recorded was in 1996 of 11%, followed however by a 10% decline the following year. Consumption fell in 2002 to the lowest recorded gas consumption figures of 98,500 kWh's, rising back to 103,690 kWh in 2003.

Consumption of bottled gas on the Island rose by 8,512 kWh's (38%) from 1994 - 1996, for a three-year peak lasting until 1999. Bottled gas consumption subsequently declined steadily over the next five years to 2003 figures of 32,020 kWh's, a 32% decrease over five years. The fluctuations in consumption are influenced by cold weather conditions and a decline in the horticultural industry.

**Figure 46: Gas Consumption - Mains and Bottled Gas (kWh)**



Source: Guernsey Gas

# Energy Consumption

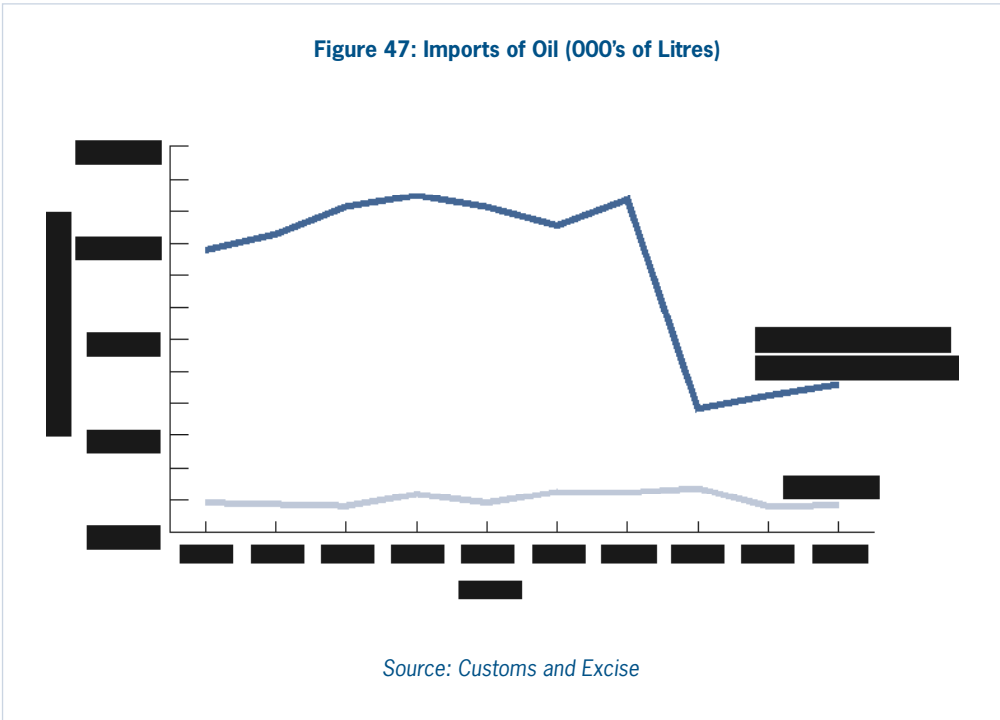
## Indicator 1: Amount of Energy Consumed

### Indicator Data

#### Oil consumption

**Figure 47** shows the amount of oil annually imported onto the Island for domestic consumption, (e.g. heating and electricity production) and for transport. Over the last four years oil imports for domestic consumption has declined steeply, this is due to the electricity cable link with France that came on line during 2000. Whilst this appears to bring a reduction in oil importation figures for the Island, it is in reality no longer monitoring the energy used in the production of the Island's electricity.

The amount of oil imported for transportation has remained fairly constant over the last ten years, fluctuating between 43,655,000 litres (the Island's highest import figures) and 37,966,000 litres (the Island's lowest). 2003 figures (38,224,000 litres) are very similar to those for 1994 (39,059,000 litres).



## Indicator 1: Amount of Energy Consumed

### Indicator Analysis



This indicator measures energy consumption patterns on the Island over the last ten years. It shows that both domestic electricity consumption and total electricity consumption figures have steadily risen over the last decade, by approximately 22% in both cases.

Consumption of gas on the Island has remained constant over the last decade. Despite fluctuating from year to year due primarily to weather conditions, overall consumption of mains gas has shown very little long-term change.

Imports of oil used for the generation of electricity have declined considerably since 2001 because of the electricity connection to the European grid, resulting in 80% of the Island's 2004 total electricity consumption figure being imported via a cable link to France.

# Energy Consumption

## Indicator 2: Per Capita Electricity Consumption

### Indicator Measure

#### Per capita electricity use

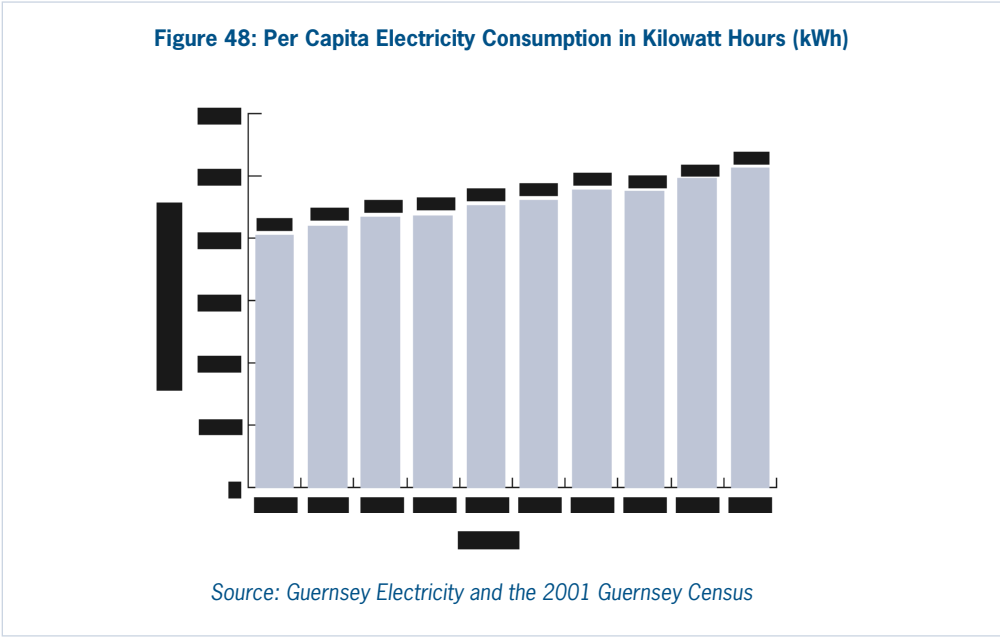
Efficient energy use is an important step towards minimising the economic and environmental costs associated with energy production and consumption.

This indicator monitors the efficiency of electricity use on the Island; electricity being the most commonly used type of energy on the Island. Annual per capita consumption figures are arrived at by dividing the total amounts of electricity (kWh) consumed on the Island each year by the current population based on incremental annual increases between each census period.

### Indicator Data

**Figure 48** shows that per capita electricity consumption figures have steadily risen over the last ten years, resulting in a quarter more electricity being used per person on the Island than was the case ten years ago.

It is important to note that whilst these figures are attributed to per capita averages they are estimated and based upon total electricity figures, which includes commercial electricity use. Also the population numbers for 2002 and 2003 are inter-censal and as such are based on the 2001 population figures.





## Indicator 2: Per Capita Electricity Consumption

### Indicator Analysis



The amount of energy consumed on the Island over the past ten years has risen. This is not likely to be a direct effect of population increases since this has risen by only 1.6% which is minimal compared to the 22% rise in electricity consumption.

Condensing boilers are presently the Island's most significant appliance used for improving energy efficiency. It is currently estimated that there are 100 condensing boilers in use on Guernsey; these boilers increase energy efficiency by around 50%, reducing fuel use, fuel bills and CO2 emissions. Energy efficient heating controls, zoning systems and more efficient, well-insulated cylinders are also making inroads. The most profound change to a house's running costs is still provided by good insulation.

Over the last ten years Guernsey's consumption patterns have begun to show some interesting trends. Electricity consumption (per person) on the Island has risen by 22%, whilst water consumption figures have risen by 14% in the last five years. Household waste has increased by 10% over the last five years and this does not take into account the dramatic rises experienced in inert commercial waste over the same period.

Such data can be used to calculate an 'ecological footprint' representing the amount of land space required to support such patterns of consumption. Guernsey's ecological footprint has been calculated at 8.6 hectares per person<sup>1</sup>, meaning that the Island requires over half a million (512,969) hectares to supply all its residents with the resources they use, a figure equivalent to 81 times the Island's total land mass. Whilst the calculations used to arrive at such a figure are still very much in development the footprint does provide an interesting perspective of the issues faced in addressing sustainable development.

<sup>1</sup> Barrett, J., Island State – Footprinting Guernsey, in Chambers, N, Simmons, C, and Wackernagel, M., Sharing Nature's Interest – Ecological Footprints as an Indicator of Sustainability, Page 141 – 145, 2002, Earthscan.

# Energy Consumption

## Indicator 3: Energy From Renewable Sources

### Indicator Measure

#### Renewable energy contributions

At present this indicator depicts the types of renewable energy sources presently used on the Island. It is very difficult to monitor with any accuracy renewable energy that is produced and consumed at source, which is why, in conjunction with Guernsey Electricity, it is hoped to develop this indicator to measure the amount of energy fed into the grid from renewable sources. Once a system is in place, it is envisaged that the data provided on units received into the grid will become the basis for ongoing measurement.

### Indicator Data

**Solar Thermal:** This is Guernsey's primary source of renewable energy and is most often used to heat swimming pools. It can however be used to pre-heat central heating systems in cases where swimming pools are used only in the summer. Here the otherwise unused heat is channelled into the household central heating system. Solar Thermal systems use the energy from the sun to heat water that is circulated around thermal/ copper pipes. Once heated the water is then pumped into the pool, or heating system.

**Solar Photovoltaic Cells:** These are Guernsey's second most widely used form of renewable energy. Photovoltaic cells are used in a variety of ways from small outside garden lights, to larger household systems. Photovoltaic cells (or PVs) convert the energy from sunlight into electricity, when more is being produced than is needed it can be stored in household units or sold back to the electricity grid. At present there are four such grid linked systems being established on Guernsey. Once they are fully connected it is thought that they will have the capacity to produce an average daily output of between 4 – 8 kWh's in the summer and 2kWh's in the winter, (1.5 Megawatt Hours per year).

**Les Hanois Lighthouse** – Perhaps Guernsey's most recognisable user of photovoltaic solar electricity is the Hanois Lighthouse just off the Southwest coast of the Island.

In January 1996, Hanois lighthouse was automated and converted to solar power with panels mounted around the lower part of the roof top helideck structure. Lamps with a 35 watt capacity were installed within the existing optic, and the rotation slowed down from 2 flashes every 5 seconds to 2 every 13 seconds. This was to keep the power requirement low enough to allow solarisation and to increase the length of the flash to achieve the required 20-mile range.

## Indicator 3: Energy From Renewable Sources

### Indicator Data

**Wind Power:** All wind farms can be generally categorised into two groups; “Onshore” and “Offshore”. An Onshore wind farm is sited on land. The foundations of the wind turbines are placed deep into the soil of an area which has been monitored and shown to have a good wind resource. The majority of all the world’s wind farms are built onshore, however the technology to place wind turbines “Offshore” is now available.

An Offshore wind farm is sited out at sea. North Hoyle Offshore Wind Farm in North Wales for example, is sited approximately 7-8km from the shore. The foundations of offshore wind turbines are inserted into the seabed. The electricity is fed via a system of cables to a sub-station near to the shore. It is connected to the electricity grid and distributed to homes, schools and businesses.

As technology improves, smaller privately owned wind turbines are becoming more and more viable, enabling individual households to convert wind energy into electricity. Guernsey is due to host its first and Britain’s smallest (household) grid connected wind turbine. Currently in its final stages of development, the privately owned system located in the Castel is expected to produce up to 1 kW peak output of electricity. Any surplus electricity will be fed into the Island’s grid.

**Tidal and Wave Power:** Guernsey Electricity is backing new research into renewable energy from underwater tidal currents. The company has become a minority equity partner in Marine Current Turbines Limited, the UK-based industrial consortium backing pioneering research into underwater power generation. Guernsey Electricity has invested £250,000 in this company which recently commenced the second phase of the £3 million “SeaGen” project.

Among the advantages of tidal power technology is the predictability of tidal currents far into the future. It has the ability to generate between five and ten times the energy produced by wind turbines, and has minimal impact on the environment.

### Indicator Analysis

The Island at present has a small number of solar powered systems used to heat swimming pools. However even small-scale use of renewable energy is becoming increasingly popular as the technology enables greater opportunities for the Island. If the “SeaGen” project progresses then this could increase the use of renewable energy.



# Energy Consumption

## References and Further Reading

### Further Reading

**Agenda 21**, United Nations Earth Summit: United Nations programme of Action from Rio, United Nations Publications, 1992.

### Organisations

#### Guernsey Electricity Limited

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#### Customs and Excise

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#### Sustainable Development Unit

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E-mail: [sdudiv@defra.gsi.gov.uk](mailto:sdudiv@defra.gsi.gov.uk)  
Website: [www.sustainable-development.gov.uk](http://www.sustainable-development.gov.uk)

#### Business Council for Sustainable Energy

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# International Transport

## Headline Indicator

### Snapshot

- Despite overall passenger movements falling by 2,925 in 2003 compared with 2002 figures, they have maintained a significant peak over the last two years.
- Air transport remains the Island's most frequently used external transportation link.

### Trends

Total air passenger movements have risen during the last year, ending a declining trend in air movements over the preceding two years.

Sea passenger movements have decreased slightly on 2002 figures, although they remain significantly higher than the annual figures recorded between 1995 and 2001.

Despite overall passenger movements decreasing in 2003, the figures recorded represent the second highest annual figures, 49,649 higher than the 1998 peak of 1,248,872.

### Connections

The ability to travel by air and sea is essential for the community and the Island's economy.

**Economic Performance** – The need for frequent competitively priced links provide the opportunity for the transportation of goods and services, which helps to sustain economic growth, providing business opportunities and a vibrant visitor economy.



[see page 81](#)

**Education** - The ability to travel economically also allows the Island's community to make the most of the services available off-Island, such as Universities, training colleges and conferences, strengthening the knowledge and skills of the Island's workforce.



[see page 37](#)

**Air Quality** – Air travel is increasingly being recognised as contributing to pollution.



[see page 133](#)

*"If no limiting action is taken, the rapid growth in air transport will proceed in fundamental contradiction to any stated goal of achieving sustainable development; current levels suggest that air travel could account for nearly 75 per cent of the UK's greenhouse gas emissions by 2050."* (The Future of Air Transport in the United Kingdom, The Royal Commission on Environmental Pollution, Press Release November 2002).

# International Transport

## Connections, Policy Objectives and What is Measured

### Policy Objectives

To protect and enhance the Island's external transport links (both air and sea), through monitoring those links, licensing operators, granting financial concessions and liaising with other jurisdictions and official bodies.

#### Policy Plan Reference:

2003 Policy and Resource Plan, Part 1, Section 4 – Economic Projects.

### What is Measured

All main air and sea routes to and from the Island are measured as well as the total number of air and sea passengers per year. The actual location of the off island links are also depicted.

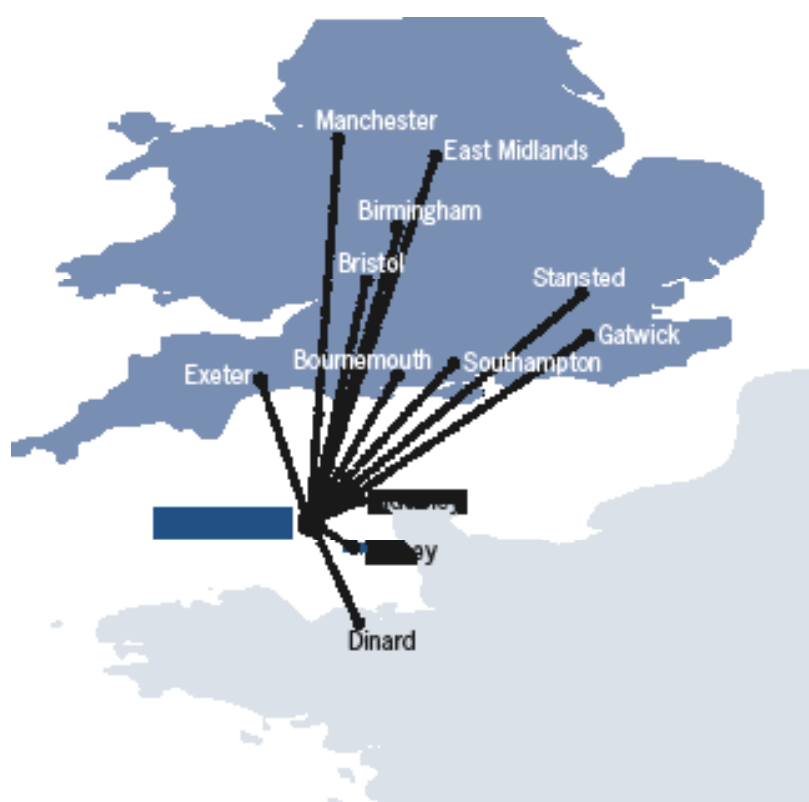
### Indicator Measure

#### Number of passengers travelling to and from the Island by air

Guernsey Airport is a major asset for the future of the Island's economy and community well-being. Air transport links are essential to our overall transport network as well as the tourist industry, the finance industry and for social services (especially health).

### Indicator Data

Figure 49: Main Year Round Air Routes



Source: Policy Council, Policy and Research Unit

The main year round air routes to and from the Island are shown in **Figure 49**. Other destinations are offered on a seasonal, summer only basis. The majority of passengers travel to and from the UK and in particular the South East of England.

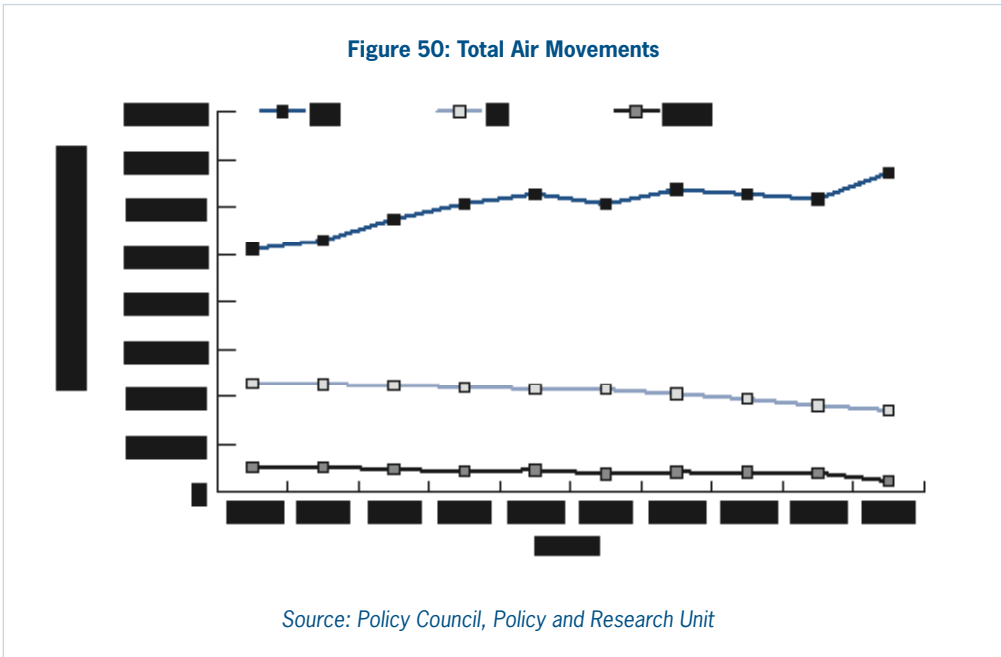
# International Transport

## Indicator 1: Air Transport

### Indicator Data

The numbers of passengers travelling between Guernsey and the UK has risen in 2003 by 54,948, the largest annual increase recorded for this category ([Figure 50](#) and [Table 22](#)). However the number of passengers travelling between Guernsey and the other Channel Islands has gradually declined since 1995, decreasing by a further 9,712 between 2002 and 2003. Continental passengers decreased by 16,762 in 2003. Whilst this indicates a declining trend since 2000, it also represents the largest annual decline in Continental passenger movements recorded so far.

The total number of passengers travelling to and from the Island by air has risen by 28,474 in 2003, marking an end to the decline experienced over the last two years.



**Table 22: Total Air Movements**

	1995	1996	1997	1998	1999	2000	2001	2002	2003
UK	529,657	575,575	608,231	628,828	607,525	637,922	628,547	618,090	673,038
CI	225,773	224,226	219,308	215,969	214,103	205,009	193,904	180,333	170,621
Continental	52,529	46,501	43,330	45,748	37,623	41,353	40,404	39,493	22,731
Total	807,959	846,302	870,869	890,545	859,251	884,284	862,855	837,916	866,390

Source: Policy Council, Policy and Research Unit



### Indicator Analysis

Total air movements shown in **Figure 50** and **Table 22** are the sum of passenger arrivals and departures by air. The majority of these passengers travel between Guernsey and the UK, Inter Island travel being the next most frequently used air service and the least travelled being the Continental service.

Air travel steadily increased from 1994 to a peak of 890,545 in 1998. A decline over the last two years saw 2002 figures fall to 837,916. 2003 figures have ended this decreasing trend, rising back to 866,390. Over the last nine years total numbers of passengers have remained within the 800,000 per annum figure.



# International Transport

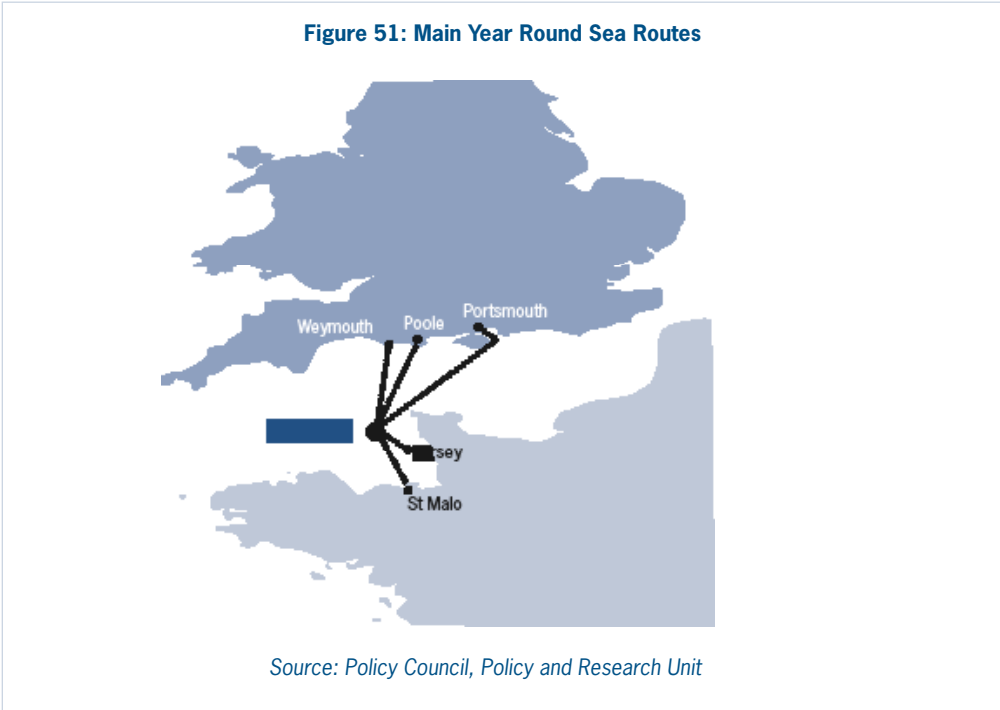
## Indicator 2: Sea Transport

### Indicator Measure

#### Number of passengers travelling to and from the Island by ferry

Similarly to air transport, transportation of goods and people by ferry is essential to the economic and community well being of the Island. Transport links by sea are essential to the finance industry, tourism and social services.

### Indicator Data



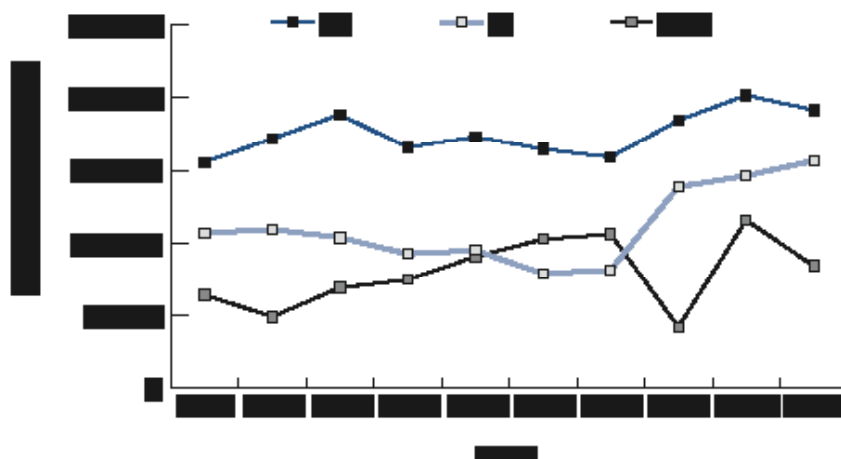
The main year round sea routes to and from the Island are shown in **Figure 51**. Other destinations are offered on a seasonal, summer only basis. The majority of passengers travel to and from the UK.

The number of passengers travelling to and from Guernsey by ferry has dropped by 31,399 from the peak experienced in 2002 (**Figure 52** and **Table 23**). 2003 Figures are however considerably higher than the nine-year average, and over 67,606 more than 2001 which has the previously highest figure. Whilst UK passenger figures are down by 10,129 on 2002 figures, the largest drop has come from continental figures down by 31,669 on 2002. This drop in continental passengers is attributed to the 2002 Victor Hugo celebrations, which saw a large one-off increase of passengers visiting the Island by sea.

The number of Channel Island passengers rose in 2003 by 10,399, continuing an upward three-year trend in rising Inter-Island travel by sea.

### Indicator Data

Figure 52: Total Sea Movements



Source: Policy Council, Policy and Research Unit

Table 23: Total Sea Movements

	1995	1996	1997	1998	1999	2000	2001	2002	2003
UK	171,767	188,575	165,752	173,170	164,601	158,948	184,521	201,852	191,723
CI	109,074	103,588	92,266	94,716	78,604	81,198	138,509	146,064	156,463
Continental	48,554	68,654	74,204	90,441	102,390	105,777	41,495	115,614	83,945
<b>Total</b>	<b>329,395</b>	<b>360,817</b>	<b>332,222</b>	<b>358,327</b>	<b>345,595</b>	<b>345,923</b>	<b>364,525</b>	<b>463,530</b>	<b>432,131</b>

Source: Policy Council, Policy and Research Unit

### Indicator Analysis

Total sea movements shown in **Figure 52** and **Table 23** are the sum of passenger arrivals and departures by sea. The majority of these passengers travel between Guernsey and the UK, inter-island travel being the next most frequently used sea service. Continental sea travel is the least travelled route out of the three categories.

Sea travel has maintained a peak trend over the last two years above 425,000 passengers; previously to this annual figure remained at or around 350,000.



## References and Further Reading

### Organisations

#### **Policy Council**

Sir Charles Frossard House  
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Tel: 717000  
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#### **Royal Commission on Environmental Pollution**

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Website: [www.rcep.org.uk](http://www.rcep.org.uk)

# Workforce Development

## Headline Indicator

### Snapshot

- According to the 2001 Guernsey Census data, almost half of Guernsey's workforce holds some form of vocational qualification at NVQ Level 2.
- Organisational commitment to the Guernsey workforce measured by attainment of the Investors in People standard is increasing.

### Trends

44.8% of the workforce holds a qualification to at least NVQ Level 2 and 14.6% have attained a NVQ Level 5 qualification. The breakdown of qualifications gained by economic sector at Level 5 shows that the Education sector has the most qualified workforce (40.7%), followed by Health at 29.2% then other service sector professions such as Financial Services, Business Services and Public Administration.

The number of companies attaining the Investors in People standard has increased by three to 24.

### Connections

Workforce development connects to many aspects of Island life, the most visible being **economic performance** and **educational achievement**. A well-developed workforce is competitive and diverse, which allows it to adapt to changes within the global economy. For Guernsey to sustain a competitive economy and provide meaningful employment, employees require the appropriate skills and qualifications.



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81, 37

Recent research identified that an employee possessing a qualification at degree level in the UK increases productivity by between 30% and 100% when compared to an employee with no qualifications (Jenkins 1995). The Institute for Fiscal Studies (Dearden, Reed and van Reenen 2000) has found that training is associated with greater productivity gains than wage rises. For example, a 5% point increase in the proportion of trained workers in an industry leads to an average wage rise of 1.6% and a 4% increase in the value added per worker.

In terms of the Investors in People standard, results of a survey carried out by Performance Tracking Research in 2002 found that 21% of recognised organisations believe that IiP improved their productivity. Research by Building Capability for the 21st Century in 1999 discovered that out of the 2,000 accredited organisations, 70% have improved their competitive edge and productivity.

# Workforce Development

## Connections, Policy Objectives and What is Measured

### Policy Objectives

The Guernsey Training Agency has established a number of strategic targets that include almost doubling the number of training events on the Island to 420, as well as increasing the number of delegates attending the events to almost 5,000 by the year 2007.

#### Policy Plan Reference:

2003 Policy and Resource Plan, Part 1, Section 4, Social Projects.

2003 Policy and Resource Plan, Part 2, Section 8, Human Resources in the Public Sector.

### What is measured

Performance standards across the economic sectors are measured using National Occupational Standards. These standards are based on NVQs (National Vocational Qualifications), which allow broad comparability between vocational and academic qualifications in the workplace. The commitment by organisations to the Island's workforce development is measured by the number of organisations achieving the Investors in People standard and also those working towards gaining this workforce development award.

### Indicator Measure

#### Percentage of the workforce possessing vocational qualifications

It is recognised by global institutions such as the United Nations and OECD that one important element enabling an economy to operate effectively is human capital. Ensuring that the Island's workforce is adequately trained and skilled is essential to its long-term economic vitality.

In March 2003, the UK Government launched its national skills strategy which essentially aims to raise productivity and ensure sustainable employment. The approach adopted seeks to improve innovation, enterprise, competitiveness and investment in both business and community development.

### Indicator Data

National Vocational Qualifications (NVQs) are used to describe the attainment level of qualifications. The central feature of NVQs is the National Occupational Standards (NOS) on which they are based. NOS are statements of performance standards which describe what competent people in a particular occupation are expected to be able to do. They cover all the main aspects of an occupation, including current best practice, the ability to adapt to future requirements and the knowledge and understanding which underpins competent performance.

Vocational and academic qualifications are different in terms of measuring knowledge and skills. It is better to think in terms of broad comparability rather than equivalency between vocational and academic qualifications. An attempt has been made to equalise vocational and academic qualifications as follows:

- NVQ Level 2    Equivalent to a GCSE or O Level qualification
- NVQ Level 3    Equivalent to an A Level or ONC/OND qualification
- NVQ Level 4    Equivalent to a First Degree or HNC/HND qualification
- NVQ Level 5    Equivalent to a Professional qualification or Higher Degree

According to the 2001 Guernsey Census, 44.8% of the workforce has a qualification at NVQ Level 2 (equivalent to GCSE's / O Levels) ([Table 24](#)). At NVQ Level 3, this proportion falls to 36.1% and at Level 4 falls to 12.4%. However, there is a slightly larger proportion of the workforce which has attained a NVQ Level 5 qualification. The figures in the table contain an element of double counting since some individuals will have attained qualifications across more than one NVQ level.

# Workforce Development

## Indicator 1: Workforce Skills

### Indicator Data

**Table 24** also provides the breakdown of qualifications gained by economic sector. It shows that the greatest proportion of qualified employees are in the service sector professions such as Education, Financial Services, Business Services and Public Administration. It also reflects the nature of competencies required to undertake specific jobs. It is not surprising that Education, Finance, and Business Services have a greater proportion of employees possessing higher level NVQs.

**Table 24: Percentage of the Workforce with NVQs and Equivalent Qualifications by Economic Sector**

Economic Sector	NVQ Level 2 GCSE / O Levels	NVQ Level 3 A Levels / ONC / OND	NVQ Level 4 Degree / HNC / HND	NVQ Level 5 Professional Qualification / Degree
Horticulture	25.0	16.9	4.7	4.9
Other Primary	16.1	9.0	2.8	1.7
Manufacturing	33.3	28.0	8.5	5.1
Construction	22.5	27.4	3.6	4.1
Utilities	39.4	43.8	13.4	10.8
Transport	38.2	25.1	4.3	11.3
Hostelry	35.2	24.9	6.1	6.2
Supplier / Wholesale	24.7	17.0	2.9	2.7
Retail	29.0	20.2	3.4	4.8
Personal Services	30.9	26.9	4.0	3.3
Recreation / Cultural	52.8	35.4	15.4	12.4
Finance	69.2	52.5	19.3	24.2
Business Services	57.7	44.0	19.3	17.5
Information Technology	48.6	43.0	14.6	9.7
Health	42.8	38.5	14.3	29.2
Education	64.7	59.8	40.2	40.7
Public Administration	51.1	44.3	16.9	16.3
Non Profit	54.2	47.2	17.0	24.5
<b>All Economic Sectors</b>	<b>44.8</b>	<b>36.1</b>	<b>12.4</b>	<b>14.6</b>

Source: 2001 Guernsey Census, Policy Council, Policy and Research Unit



### Indicator Analysis



Currently, the only means of obtaining information on Workforce Skills is through the Guernsey Census which is carried out every five years. The 2001 Census was the first to categorise qualifications by NVQ levels, hence comparisons with previous Censuses are not available.

Whilst almost half of the workforce (44.8%) has gained qualifications at NVQ Level 2 this level drops to 14.6% at NVQ Level 5. The service sectors of the economy are those with the most highly skilled workforce, reflecting the skill levels needed to work in these sectors (for example, Health, Education, Finance and Business Services).

# Workforce Development

## Indicator 2: Organisational Commitment

### Indicator Measure

#### Number of companies achieving and working towards the Investors in People Standard

This strategic indicator reflects the extent of both public and private sector commitment to developing its workforce by investing in the skills needs of the employees. As a national standard developed in 1990 by the National Training Task Force which sets a level of good practice for training and personal development, it is a recognised process with which to monitor progress in Guernsey. Not only is the Investors in People standard a framework which benefits individuals with career development, it is also a mechanism for improving business performance and competitiveness.

### Indicator Data

The Investors in People Standard is based on four key principles:

**Commitment:** Commitment to invest in people to achieve business goals;

**Planning:** Planning how skills, individuals and teams are to be developed to achieve these goals;

**Action:** Taking action to develop and use necessary skills in a well defined and continuing programme directly tied to business objectives;

**Evaluating:** Evaluating outcomes of training and development for individuals' progress towards goals, the value achieved and future needs.

**Table 25** shows the number of companies achieving the Investors in People Standard over the last six years. A total of 24 organisations have now achieved Investors in People and a further 14 organisations are working towards the Standard. This represents 13% of the Island's workforce that are employed by organisations that have been awarded Investors in People or are working towards the Standard.

**Table 25: Percentage of the Workforce with NVQs and Equivalent Qualifications by Economic Sector**

	1999	2000	2001	2002	2003	2004	Total
Companies Achieving Investors in People	1	8	6	5	1	3	24

Source: Guernsey Training Agency

## Indicator 2: Organisational Commitment

### Indicator Data

Out of the 24 achieving the Investors in People Standard, data is available for 22 showing the difference between the three main sectors ([see Table 26](#)) The majority of these organisations are operating in the private sector.

**Table 26: Breakdown of Companies Achieving the Investors in People Standard by Economic Sector**

	2003	2004
Public Sector	3	4
Financial Services	6	7
Non-Financial Services	7	11

Source: Guernsey Training Agency

**Table 27** shows these 22 organisations disaggregated by the number of people they employ. 12 out of the 22 organisations have over 100 employees.

**Table 27: Breakdown of Companies Achieving the Investors in People Standard by Size of Company**

No of Employees	No of Companies
<20	4
<50	6
<100	4
<200	4
>200	4

Source: Guernsey Training Agency

Although the number of companies gaining the Investors in People standard fluctuates from year to year the cumulative total has increased from 21 in 2003 to 24 in 2004. The continued rise in the number of companies gaining the Investors in People Standard, shows continued commitment by both the public and private sector concerning workforce development.

### Indicator Analysis



# Workforce Development

## References and Further Reading

### Organisations

#### **The Training Agency**

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Tel 721555  
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#### **Commerce and Employment Department**

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Tel 717000  
Fax 717157  
[www.gov.gg](http://www.gov.gg)

### Websites

#### **Learning and Skills Council**

[www.lsc.gov.uk](http://www.lsc.gov.uk)

### Snapshot

- Guernsey's key natural habitats form just 25% of the Island's landmass of which 8% are endangered.
- A majority of the Island's biodiversity is supported by these endangered habitats.
- Guernsey's garden birds are showing healthy population figures.

### Trends

Guernsey has a number of habitats that support significant numbers of flora and fauna species. Many of these habitats are extremely fragile due to the very small area they occupy. Woodland, wetland and coastal habitats occupy just 8% of the Island's land mass.

Compared with 2003, the garden bird population has broadly increased. Future results from the Royal Society for the Protection of Bird's garden bird survey will allow for any trends occurring in population figures to be carefully monitored.

### Connections

Biodiversity connects to a number of indicators and can broadly be seen to reflect the impact that human development is having over time.

**Housing** provision and **land use** directly impact upon the Island's habitats.



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*"Biodiversity has been likened to a web that connects each form of life in an interdependent and interconnected system. All life, including humans, depends on the functioning of healthy ecosystems to supply us with energy, nutrients, water and food. During the last few centuries, growth in the human population and intensification of our use of resources has greatly increased the rate of habitat destruction and species extinction."* United Nations Convention on Biological Diversity, Sustaining Life – How the Convention on Biological Diversity Promotes Nature and Human Wellbeing. Website accessed April 2004.

Pollutants that affect the health of the Island's biodiversity are monitored within the **water quality**, **air quality** and **land use** indicators.



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147, 133, 171

Biodiversity is also a symbol of Guernsey's natural heritage and forms a close link to the Island's cultural identity, connecting to a sense of community well-being and making it an attractive destination for visitors, having a positive impact upon the Island's **economic performance**.



see page 81

# Biodiversity

## Connections, Policy Objectives and What is Measured

### Policy Objectives

To conserve and improve the Island's biodiversity, through, *inter alia*, the protection of key habitats.

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 2, Section 10 – The Draft Strategic Land Use Plan (see strategic policy 32).

### What is Measured

Island habitats are measured as a percentage of the Island's landmass. Garden birds are monitored using the RSPB Guernsey's annual garden bird survey.

## Indicator 1: Natural Habitats and Key Species

## Indicator Measure

## Guernsey's habitats as a percentage of its landmass

The intention of this indicator is to monitor the key habitat areas in Guernsey. These habitats support the Island's many species of flora and fauna. The types of habitat measured and some of the key species they support are listed in **Table 28** below.

Table 28: Guernsey's Habitat and Key Species

<b>Wetland</b>	<p>Wetland is a habitat surrounding water. There are several types of wetland found locally, these include grazing marsh, salt marsh, brackish water, freshwater quarries and ponds.</p> <p><b>Key Species:</b> Strawberry Clover, Common Saltmarsh Grass, Greater Pond Sedge, Reed, Duckweed.</p>
<b>Woodland</b>	<p>Woodland cover in Guernsey is either:</p> <p>Native Woodland – naturally occurring.</p> <p>Naturalised Woodland – introduced by man and now reproducing naturally.</p> <p>Exotic/ Ornamental Woodland – introduced by man but is not reproducing naturally.</p> <p><b>Key Species:</b></p> <p>Elm, Greater Wood Rush, Black Byrny, Oak, Bluebell, Ash.</p>
<b>Scrub</b>	<p>Scrub is uncultivated land providing nesting and feeding areas for birds and insects.</p> <p><b>Key Species:</b> Honey Suckle, Blackthorn, Gorse, Bramble, Bracken.</p>
<b>Arable</b>	<p>When managed correctly arable land offers a key habitat for birds and various flora species.</p> <p><b>Key Species:</b> Thrushes, Finches, Skylark.</p>
<b>Grassland</b>	<p>Guernsey has a mosaic of different types of grassland habitats in small fragmented fields divided by earth banks, hedges and walls.</p> <p><b>Key Species:</b> Sorrel, Violet.</p>
<b>Amenity and Improved Grassland</b>	<p>Amenity and improved grassland is the dominant habitat on the Island, and is relatively species poor, being sown for agriculture and recreational use. Including areas that are managed as golf courses, or regularly mown areas of extended gardens.</p> <p><b>Key Species:</b> Clover, Common St. John's Wort, Early Purple Orchid.</p>
<b>Coastal</b>	<p>Coastal habitats include sand dunes, rock, shingle, cliff, scrub and some grassland. Intertidal zones are not included in the areas calculated as coastal habitat.</p> <p><b>Key Species:</b> Marram Grass, Sea Knotgrass, Yellow Horned Poppy, Gorse, Elder, Bulbous Buttercup, Fennel, Dwarf Pansy.</p>
<b>Other</b>	<p>This includes urban and built-up areas, which offer limited support for species of flora and fauna.</p>

Source: Biological Records Centre

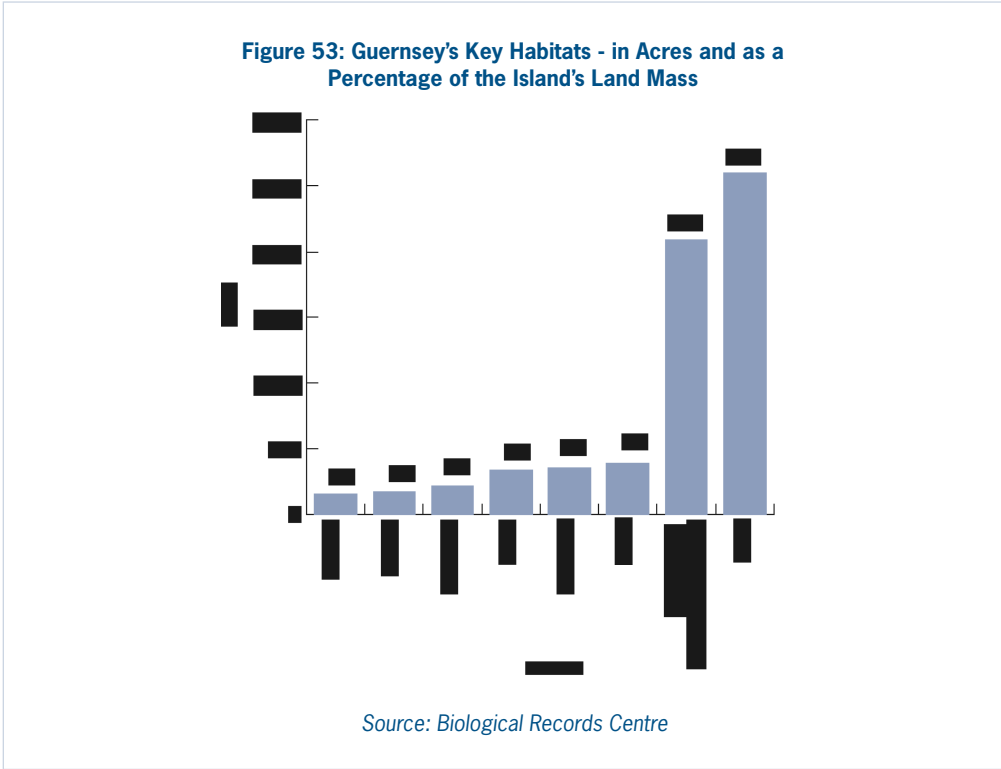
# Biodiversity

## Indicator 1: Natural Habitats and Key Species

### Indicator Data

**Figure 53** shows that 75% of the Island's land mass is made up of two types of habitat, 42% being 'other' which includes urbanised areas, or areas with no specific habitat and 33% being 'amenity and improved grassland'. Amenity and improved grassland consists of recreational land such as golf courses or football pitches requiring a relatively high degree of management and maintenance.

The remaining 25% of the Island is made up of the six key habitats outlined in **Table 28** on the previous page, with grassland, arable and scrub accounting for 17%. The remaining 8% of landmass is made up of the Island's most endangered habitats, woodland (3%), coastal (3%) and wetland (2%).



### Indicator Analysis



In order for Guernsey's diverse range of flora and fauna to remain sustainable the key habitats that support them must be conserved. Each type of habitat sustains a range of particular flora and fauna species, as well as having significant links to neighbouring habitats. By monitoring the key habitats on the Island it is hoped that future policies can be developed to protect and enhance the endangered habitats, in particular woodland and wetland.



## Indicator Measure

**The Island's garden bird population**

Bird populations are considered a good indicator of the broad state of wildlife and biodiversity health because they occupy a wide range of habitats, they tend to be near or at the top of the food chain, and considerable data on bird populations is available.

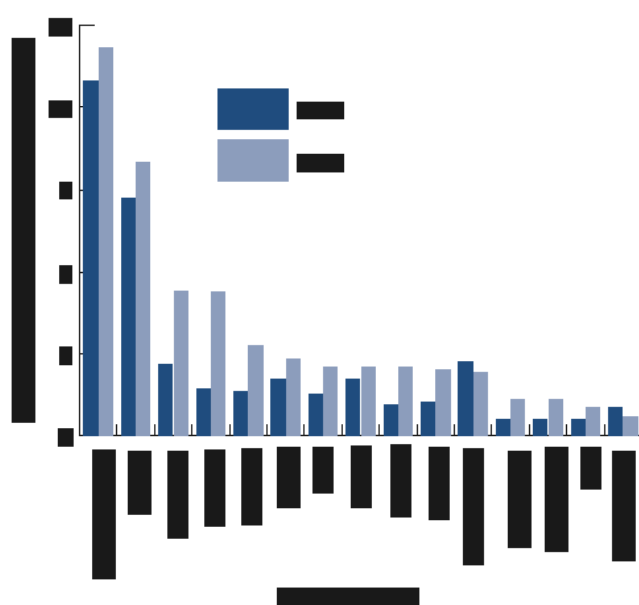
The data for this indicator is supplied through the results of the Royal Society for the Protection of Birds (RSPB) Guernsey garden bird survey, which is in its second year. The survey is a part of the national RSPB "Big Garden Bird Watch", which takes place over one weekend every winter. At any time over the 48-hour period participants survey their garden for one hour. To prevent double counting of birds, the maximum number of a species visiting the garden at one time is recorded.

The RSPB has made time-series comparisons possible by calculating average bird numbers per garden, taking account of the varying numbers of annual participants.

## Indicator Data

**Figure 54** shows an increase in almost all bird sightings in 2003, compared to 2002 figures. Substantial rises were recorded for Greenfinch, Chaffinch, Blackbird and Great Tit. The only species to show a decline were the Collared Dove and the Wood Pigeon.

**Figure 54: RSPB Guernsey Garden Bird Survey 2003 and 2004  
Top 15 Garden Birds**



Source: Guernsey RSPB

# Biodiversity

## Indicator 2: Garden Birds

### Indicator Analysis

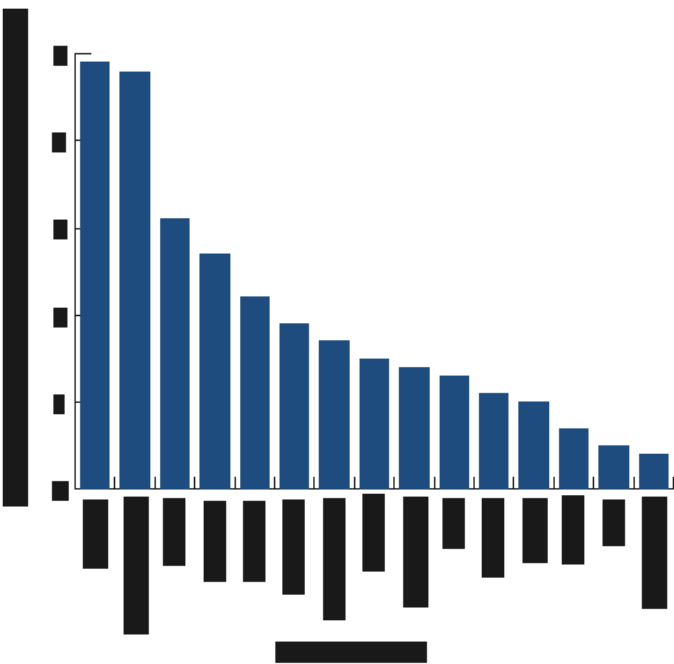


These figures portray healthy bird populations for the Island, comparing favourably with the 2003 UK survey results shown in [Figure 55](#). House Sparrows are by far Guernsey's most common garden bird with an average of 14 birds recorded for each garden. House Sparrow averages for the UK in 2003 are recorded at just fewer than five birds per garden with the House Sparrows being the UK's second most common garden bird. Starlings which came a very clear second in the Guernsey league, with an average of ten birds per garden appear first in the UK league with an average of five birds per garden.

The significant increases in sightings of Greenfinch and Chaffinch in Guernsey's 2003 survey appear to be particular to the Island.

*NB: Comparisons with the UK offer valuable benchmarks but due to the nature of Guernsey's Island ecosystem in reality they represent very different types of biodiversity.*

Figure 55: RSPB UK Garden Bird Survey  
Top 15 Garden Bird Species - 2003



Source: Guernsey RSPB

## References and Further Reading

## Further Reading

**UN Convention on Biological Diversity**

United Nations Environment Programme  
 World Trade Centre  
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## References and Further Reading

### Organisations

#### **Guernsey Biological Record Centre**

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### Snapshot

- Air quality in Guernsey is generally good though some types of emission levels have risen.
- Complaints arising from noise pollution have risen slightly over the last year.

### Trends

Guernsey's main source of atmospheric pollution is from motor vehicles working inefficiently in low gear. Roadside pollution levels in the morning and evening rush hours are almost twice that of background levels.

### Connections

Air quality connects to a range of economic, social and environmental indicators, such as **local and international transport**, **health**, **biodiversity** and **energy consumption**.

A significant effect of air pollution has been the burning of fossil fuels (e.g. petrol, oil, gas and coal) and the subsequent release of carbon into the atmosphere, which in turn has contributed to climate change and sea level rise. In a recent report on Small Island States, Kofi Annan the Secretary General of the United Nations, suggested that:

*"Climate change and sea level rise can inflict serious economic damage on many small islands, particularly in highly developed coastal areas where buildings and infrastructure for tourism, fisheries and other important economic activities are located."* UN Department of Public Information – DPI / 2348F, April 2004.

Air pollution connects to the following indicators:

**Biodiversity** – the health of the Island's ecology is very delicately balanced – *"as the climate changes, the distribution patterns of species and the composition of habitats will change"* MONARCH – Modelling Natural Resource Responses to Climate Change, UK-CIP, 2003. Even very slight change to sea levels, will cause increased incidents of soil salinisation on the Island.

 [see page 125](#)

**Local Transport** – the increasing number of vehicles being used on the Island's roads are causing measurable effects to air quality. Peak air pollutant levels in the morning and evening rush hours are regularly twice the background levels found on Saturdays, Sundays and Bank Holidays when work and school traffic is minimal.

 [see page 193](#)

# Air Quality

## Connections, Policy Objectives and What is Measured

### Connections

see page 109



**International Transport** – “current levels suggest that air travel could account for nearly 75 per cent of the UK’s greenhouse gas emissions by 2050”, The Future of Air Transport in the United Kingdom, The Royal Commission on Environmental Pollution, Press Release November 2002.

see page 21



**Health** – “daily changes in air pollution trigger increased admissions to hospital and contribute to the premature death of those who are seriously ill.” Air Pollution – what it means to your health, DEFRA, 2003.

see page 97



**Energy Consumption** – “Fossil fuels are responsible for the majority of emissions of greenhouse gases in the UK and reduced energy consumption is a key requirement for tackling climate change.” Energy Consumption, Environment Agency, 2004.

### Policy Objectives

**To ensure that air and noise pollution are kept to a minimum, preserving Guernsey residents’ quality of life and fulfilling the States responsibilities in terms of combating global climate change.**

Guernsey is aiming to reduce its greenhouse gas emissions in line with the UK’s target of 12.5% from its 1990 levels.

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 1, Section 4 – Environmental Projects.

2003 Policy and Resource Plan, Appendix IV – States Resolutions Requiring Preparation of Legislation - the priority accorded to the preparation of the Control of Pollution Law

### What Is Measured

An inventory has been adapted to monitor “Greenhouse Gas” emissions from the Island. General air quality over Guernsey is measured by monitoring levels of the four main air pollutants; nitrogen dioxide, sulphur dioxide, particulates and ozone. Roadside levels of nitrogen dioxide are also measured against background levels. Noise pollution is measured via the number of complaints made to the Environmental Health Department.

## Indicator 1: Emissions of Greenhouse Gases

## Indicator Measure

## Guernsey's "greenhouse gas" emissions

The 1992 United Nations Framework Convention on Climate Change is the culmination of a series of agreements through which countries around the World are joining together to meet the challenge posed through global air pollution. The UK's objective was to reduce its emissions of Greenhouse Gases to 12.5% below 1990 levels over the period 2008 – 2012 and move beyond this to the UK domestic goal of reducing CO<sub>2</sub> emissions by 20% by 2010.

The States of Guernsey agreed to the formal ratification of the Kyoto Protocol and UN Convention on Climate Change on 6th February 2002. Global climate change and rising sea levels around the world place Island States such as Guernsey in the highest risk category.

## Indicator Data

As part of the National Atmospheric Emissions Inventory programme, NETcen contracted by DEFRA (Global Atmospheres Division) have compiled a "greenhouse gas" emissions inventory for Guernsey (**Table 29**). The "greenhouse gases" monitored in this indicator are: Carbon Dioxide (CO<sub>2</sub>) expressed as Carbon (C), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFC), Perfluorocarbons (PFC) and Sulphur Hexafluoride (SF<sub>6</sub>). These three pollutants are referred to as the "industrial greenhouse gases" as they are not naturally occurring, and are expressed as a carbon equivalent.

Table 29: Guernsey Greenhouse Gas Emissions Estimates for 2002

	Tonnes Carbon Equivalent					
	Tonnes Carbon	Tonnes CH <sub>4</sub>	Tonnes N <sub>2</sub> O	HFC*	PFC*	SF <sub>6</sub> *
Power Generation	12,454	2	0	-	-	-
Commercial, Residential and Agricultural Combustion	33,095	6	0	-	-	-
Extraction/Distribution of Fossil Fuels	-	11	-	-	-	-
Solvent Use	-	-	-	2,264	0	143
Road Transport	19,247	32	7	-	-	-
Other Mobile Machinery	20,237	10	3	-	-	-
Waste Treatment & Disposal		427	-	72	-	37
Agriculture		294	12	-	-	-
<b>Total</b>	<b>85,032</b>	<b>781</b>	<b>22</b>	<b>2,337</b>	<b>0</b>	<b>181</b>

\* HFC, PFC and SF<sub>6</sub> are expressed as tonnes of Carbon Equivalent  
Source: National Environmental Technology Centre - AEA Technology

# Air Quality

## Indicator 1: Emissions of Greenhouse Gases

### Indicator Analysis



This inventory is the first stage in measuring the Island's "greenhouse gas" emissions. The main contributor is carbon of which the Island emitted in 2002 an estimated 85,032 tonnes predominantly from commercial/ residential and agricultural combustion and road transport. The second highest gas emission was Hydrofluorocarbons (HFC) produced from solvents used in refrigeration, aerosols and air conditioning.



## Indicator 2: Sea Level Rise

### Indicator Measure

#### Sea level rise scenarios, taking into account tidal flows

A prolonged increase in sea level rise could potentially have a serious impact on Guernsey's economy, community and environment. With certain low lying areas in the north of the Island falling below five metres above sea level, prolonged rises of up to 70 centimetres, could have quite serious consequences, such as increasing soil salinisation and flooding incidents.

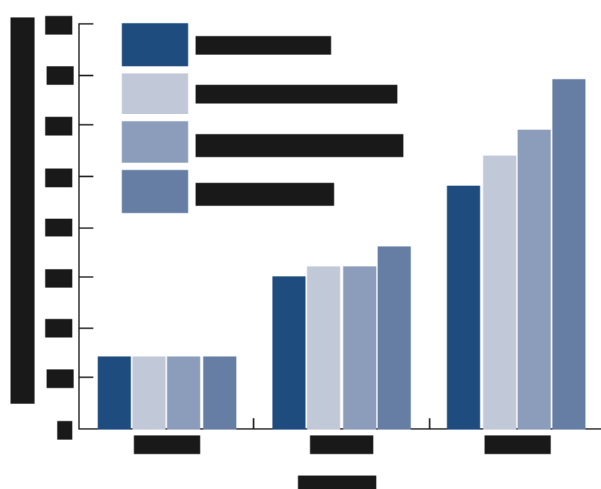
The Channel Islands have now been included in the local level 25 kilometre scenario models being run by the UK Climate Impact Programme (UK CIP) in order to provide reliable information upon which to build a strategic climate change policy in future years.

Sea levels will rise over the next century, mainly due to the thermal expansion of the

### Indicator Data

ocean as it picks up heat from the warming of our atmosphere. It is also possible that the melting of ice sheets over land may add water into the oceans. There is great uncertainty however in the calculation of each of these components of sea level rise. Different climate models give very varied estimates even for the same emissions scenario. **Figure 56** is based upon a range of predictions from a number of climate models included in the Inter-Governmental Panel on Climate Change's Third Assessment Report.

**Figure 56: Maximum Projected Changes in Sea Levels Based on Different Greenhouse Gas Emissions Scenarios**



Source: Scenarios of Climate Change for Islands within the British-Irish Council: British-Irish Council Report, July 2003

## Indicator 2: Sea Level Rise

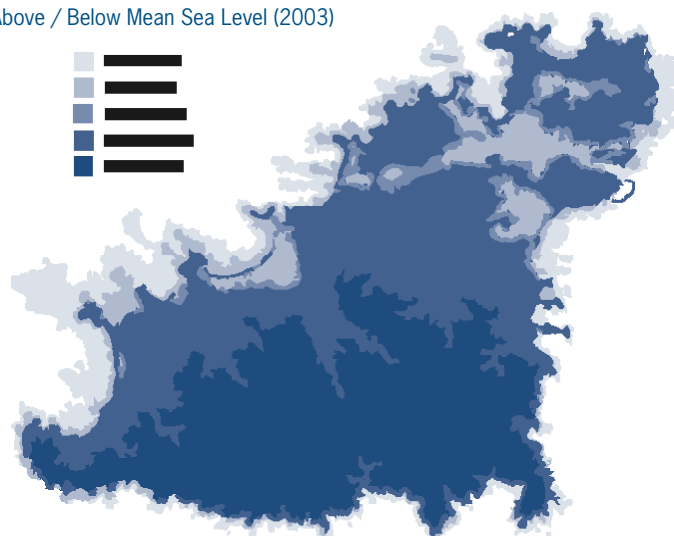
### Indicator Data

**Figure 56** shows that by the 2020s there is no difference in the global average sea level rise predicted under the four different emission scenarios. This is because the climate system, and in particular our oceans, respond very slowly to changes in emissions. The relative change in sea level from different emissions is greater by the 2080's. It can be seen from **Figure 56** that the sea level rise by the 2080s, estimated by the least sensitive climate model with the low emissions scenario, is 9 cm and that the most sensitive model using high emissions is 69 cm.

In addition to changes in sea level, the level of the land is in some parts of Great Britain is also changing due to a process called post-glacial rebound. Estimates of land movement for the Channel Islands have not been published. However, when estimates are available it should be possible to add these to the global sea level rise estimates to arrive at a figure for the net sea level rise.

**Figure 57: Map of Guernsey Showing Low Lying Areas of the Island**

Height Above / Below Mean Sea Level (2003)



Source: Digimap, States of Guernsey

### Indicator Analysis



**Figure 57** shows those parts of Guernsey at or below 5 metres above the 2003 mean sea level. Such areas are potentially at risk from soil salinisation and flooding incidents. It should be stressed that these areas are protected from flooding by the Island's sea defences, and this will continue to be the case, even with the predicted sea level rises. However, the number of flooding incidents and an increase in soil salinisation are likely to be the consequences of any sustained rise in sea levels, if the Island's coastal defences are not reinforced in vulnerable areas.

## Indicator 3: General Air Quality and Roadside Air Quality

## Indicator Measure

**Levels of air pollution, including roadside and background pollution.**

Everybody is affected by the air that they breathe and by changes in climate as it directly affects the well-being of the community, as well as individual quality of life. General everyday air pollutants include Carbon Monoxide (CO), Nitrogen Dioxide (NO<sub>2</sub>) from cars, Sulphur Dioxide (SO<sub>2</sub>) from industry, particulate matter (PM 10), and Ozone. All of these are harmful to health and regarded as key air pollutants. A description of the air pollutants monitored is given in **Table 30**

**Table 30: Description of Air Pollutants**

Element	Formula	Explanation
Nitrogen Dioxide	NO <sub>2</sub>	A gas generated when fuel combustion occurs at high temperatures, mostly from motor vehicles.
Sulphur Dioxide	SO <sub>2</sub>	A gas generated from coal and lignite in power stations or industries, it is also contained in heavy fuel oil. Domestic stoves, diesel engine vehicles and small-scale industries can also contribute to this emission.
Particulates	PM10	There are a number of substances and sizes of particulates. The main sources are naturally generated particles (soil and dust particulates, etc), the combustion of fossil fuels for power generation, motor vehicles and a wide range of industrial processes including waste incineration. The smaller the size of particle the more harmful it is to health as it penetrates deeper into the respiratory system. Large inhalable particles are usually trapped in the nose and throat while particles which are less than 10 ug penetrate deeper into the lungs and are more dangerous. These come mainly from combustion sources. All particles are measured regardless as to whether they are classed as pollutants.
Ozone	O <sub>3</sub>	This is a secondary pollutant formed through photochemical reactions between nitrogen oxides and VOCs (and involving carbon monoxide) in sunlight. These reactions create a photochemical smog. In stable weather conditions ozone forming chemicals can be trapped under low-level temperature inversion, allowing ozone time to form.

Source: Hardoy, J., Mitlin, D., and Satterthwaite, D., *Environmental Problems in an Urbanizing world*, Earthscan, London, 2001.

Indicator 3: General Air Quality and Roadside Air Quality

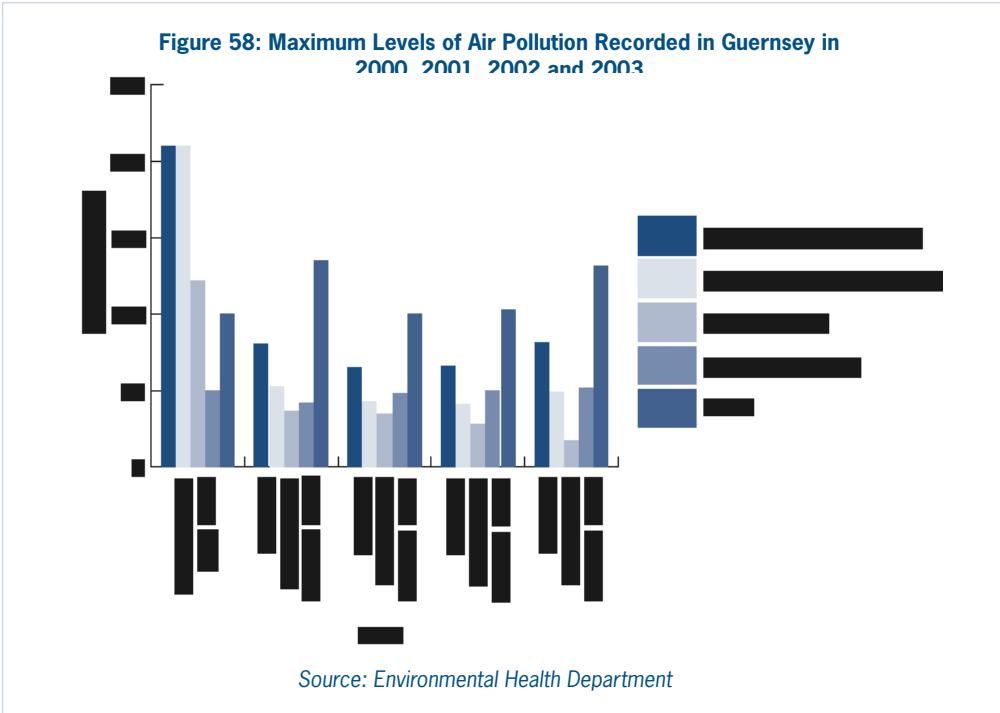
Indicator Data

General air quality

Results show that the general air quality of Guernsey is very good (Figure 58). Nitrogen Dioxide from motor vehicles has risen in 2003 by 20% at roadside levels and 16% at background levels. However, both levels remain well under half of the World Health Organisation (WHO) international guideline levels. Figures for Sulphur Dioxide in 2003 were also considerably below the WHO international guideline levels, with a 37% fall in 2003 figures continuing the wider trend of a 46% reduction in Sulphur Dioxide levels over the last four years.

Particulates in Guernsey’s air have risen slightly in 2003 by 4%. It should be noted that these figures are maximum levels recorded and that average levels are substantially lower. Despite this, the rise for 2003 shows that maximum particulate levels on Guernsey, most probably from vehicle emissions, have on occasion risen marginally above the WHO guideline levels.

Maximum ozone levels have risen by 29% in 2003, 32% higher than WHO guideline figures. These highs however coincided with record temperatures on the Island during early August. Ozone is a transboundary pollutant, i.e. it can be transported in weather systems over considerable distances. Because of this there is little that can be done to control levels occurring over Guernsey, emphasising the importance of conventions such as the Kyoto Protocol which seek to minimise transboundary pollutants on a global scale.



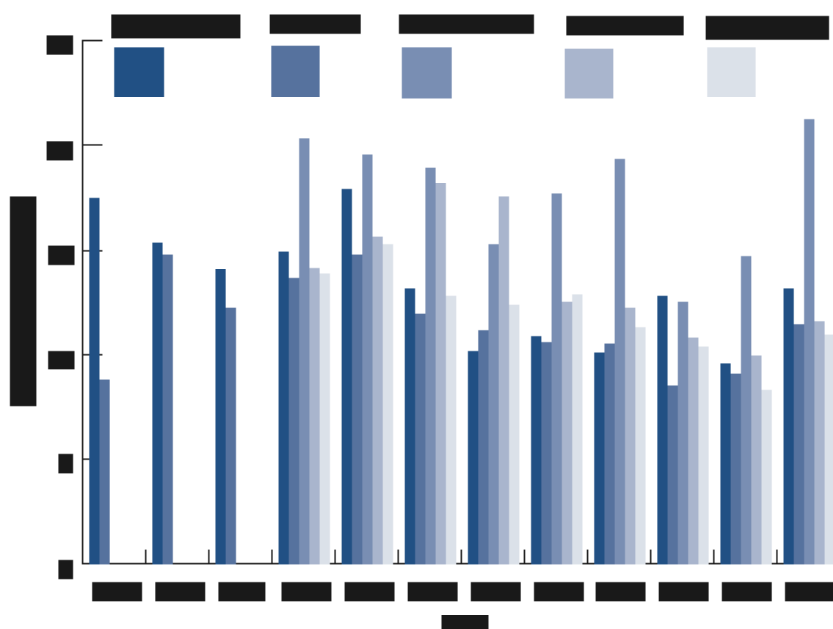
## Indicator 3: General Air Quality and Roadside Air Quality

## Indicator Data

## Roadside air quality

**Figure 59** shows that Nitrogen Dioxide figures for 2003 have shown an increase on 2002 figures in all locations measured. Fountain Street has shown the largest rise with a 44% increase on 2002's roadside levels representing the highest levels ever recorded on the Island. These exceeded Fountain Street's previous record peak in 1995 by 5%.

**Figure 59: Roadside Levels of NO<sub>2</sub> at Selected Locations**



Source: Environmental Health Department

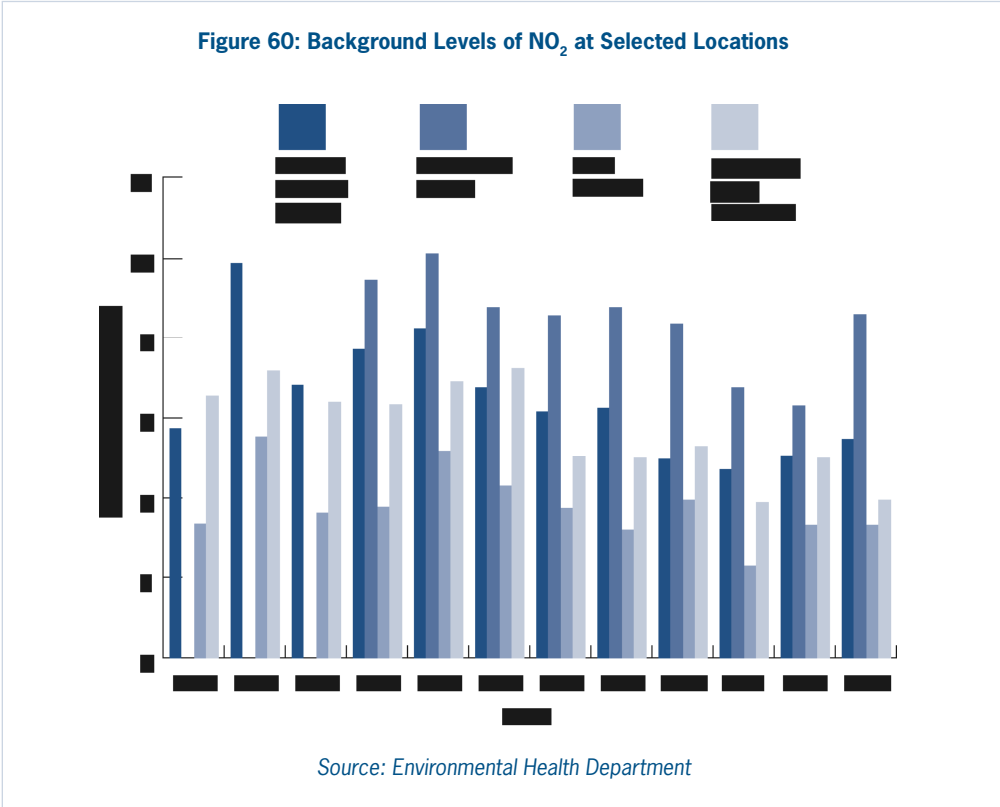
**Figure 60** shows that background levels of Nitrogen Dioxide in the Commercial Arcade have risen in 2003 by 36% after a steady decrease in the previous two years of 33%. Nitrogen Dioxide levels rose very slightly at the Princess Elizabeth Hospital and remained stable at Corbiere, whilst levels at Les Quatre Vents decreased by 22%.

DEFRA indicates that levels of NO<sub>2</sub> below 50 ppb indicate “very good” air quality. Despite the small rises in roadside and background Nitrogen Dioxide experienced in 2003 the levels are still well within these and WHO international standards.

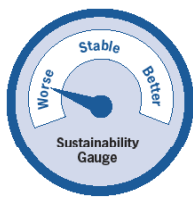
# Air Quality

## Indicator 3: General Air Quality and Roadside Air Quality

### Indicator Data



### Indicator Analysis



Real time air quality monitoring confirms that the main source of atmospheric pollution in Guernsey is motor vehicle emissions probably because of the increasing number of motor vehicles that are being used on the Island's roads. Peak Nitrogen Dioxide levels in the morning and evening rush hours are regularly twice the background levels found on Saturdays, Sundays and Bank Holidays when commuter traffic is minimal.

Particulate emissions on the Island are also produced by the relatively large number of vehicles in use, as well as from the burning of coal and the use of oil fired central heating systems, which produce greater particulate emissions than gas fired systems.

The declining levels of Sulphur Dioxide over the last four years is primarily due to the electricity connection with France, which has resulted in far less burning of heavy fuel oil at the Island's power station.

Indicator 4: Noise Pollution

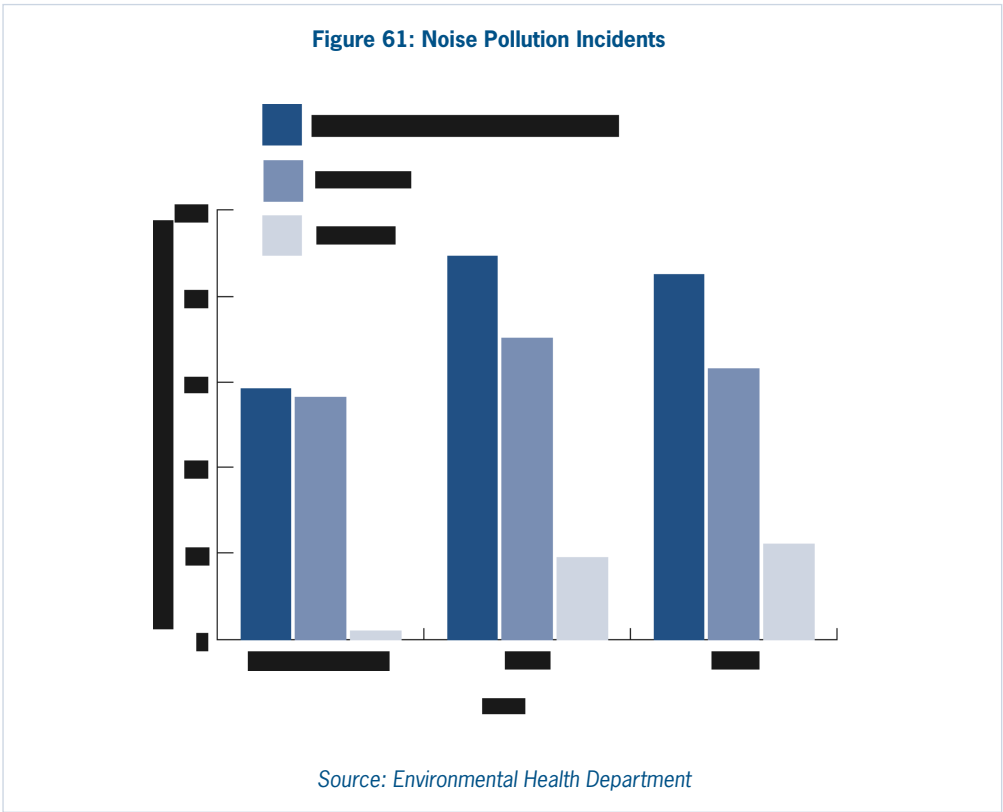
Indicator Measure

Number of reported noise pollution incidents

Noise pollution can have a detrimental effect on the quality of life within a community. It can stem from both commercial premises, such as nightclubs, public houses, building sites, cinemas or shops, or from domestic premises, such as houses, flats or garages. The noise pollution incidents measured for this indicator are reported to the Health and Social Services Department. They are more often ongoing sources of complaint rather than issues that would involve the Police.

Indicator Data

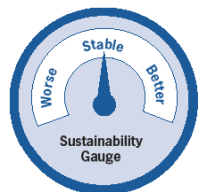
Before July 2001, the number of complaints concerning noise levels was not recorded and figures for 2001 have therefore been estimated. The number of noise complaints for 2003 has fallen by four from 2002 figures, to 85 (Figure 61). The breakdown of these figures has remained roughly similar to that of 2002; whilst there has been a drop in commercial complaints by seven, domestic complaints rose by three.



# Air Quality

## Indicator 4: Noise Pollution

### Indicator Analysis



The figures for the number of complaints of noise pollution received remain at similar levels in 2002 and 2003. The Health and Social Services Department hopes to see a decline in the number of complaints as comparisons are made through longer term monitoring.



### Further Reading

#### **Air Pollution – what it means to your health,**

DEFRA, 2003.

[www.defra.gov.uk/environment/airquality/airpoll](http://www.defra.gov.uk/environment/airquality/airpoll)

#### **Climate Change and Nature Conservation in Britain and Ireland**

MONARCH – Modelling Natural Resource Responses to Climate Change,

UK-Climate Impacts Programme, 2003

#### **The Future of Air Transport in the United Kingdom,**

The Royal Commission on Environmental Pollution,

Press Release November 2002.

[www.rcep.org.uk](http://www.rcep.org.uk)

#### **Understanding Climate Change:**

A Beginners Guide to the UN Framework Convention.

[www.unfccc.int/resource/beginner.html](http://www.unfccc.int/resource/beginner.html)

#### **Energy Consumption,**

Environment Agency, 2004

[www.environment-agency.gov.uk/yourenv](http://www.environment-agency.gov.uk/yourenv)

#### **Guernsey Greenhouse Gas Inventory**

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Website:[www.aeat.com/netcen](http://www.aeat.com/netcen)

#### **Climate Change and Human Health:**

##### **Risks and Responses**

McMichael. A.J., et al

World Health Organisation

Geneva, 2003

#### **Scenarios of Climate Change for Islands within the BIC Region**

British Irish Council

July 2003

## References and Further Reading

### Organisations

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Website: [www.doc.mmu.ac.uk](http://www.doc.mmu.ac.uk)

### Websites

#### **United Nations Framework Convention on Climate Change**

[www.unfccc.int](http://www.unfccc.int)

#### **DEFRA – UK Government: Department of Environment, Food and Rural Affairs**

[www.airquality.co.uk](http://www.airquality.co.uk)

#### **Friends of the Earth**

[www.foe.co.uk](http://www.foe.co.uk)

# Water Quality

## Headline Indicator

### Snapshot

- Fresh water quality on the Island continues to be of a high quality with reported water pollution incidents decreasing.
- Over the last few years there has been a decline in bathing water quality as measured by the stringent EC Guideline Standard.

### Trends

The overall number of pollution incidents that Guernsey Water has investigated in 2003 has decreased by 15% on 2002 figures, due to a 37% reduction in oil pollution incidents and a 54% reduction in sewage pollution incidents.

Raw water and treated water are both generally compliant with UK drinking water regulations as is the quality of water stored in the Island's service reservoirs.

Of the Island's beaches that were tested, all reached the EC Mandatory Standard, although there has been a 15% decrease in the number of beaches reaching the more stringent EC Guideline Standard.

### Connections

As an essential resource for life, water quality and quantity is critical to the Island's sustainability and connects to almost all indicators. An adequate supply of water is fundamental to the Island's **health, ecology** and **economy**. Future water issues depend on our current awareness and behaviour patterns.



see pages  
21, 125, 81

Changes in water quality (particularly freshwater) are often a general reflection of **land use** and management practices. It is not just agricultural and horticultural land uses which impact upon ground water quality – domestic fertiliser and pesticide use also contribute in the same fashion.



see page 171

Poor quality bathing water restricts recreational water use for both Island residents and visitors.

# Water Quality

## Connections, Policy Objectives and What is Measured

### Policy Objectives

**To achieve optimum water quality, ensuring chemical and biological elements are kept well within UK drinking water regulations and to maintain the quality of our bathing water.**

The following objectives are taken from Guernsey Water's Business Plan 2003 – 2013 and Guernsey Water Board's 2003 Annual Report: -

#### **Water Catchment Protection**

Designate water catchment areas as nitrate sensitive zones, subject to consideration by Law Officers.

#### **Water Quality**

Achieve 99% compliance with the Maximum Allowable Concentration (MAC) of water leaving all treatment works.

Achieve 98% compliance with Maximum Allowable Concentration (MAC) of water at all service reservoirs.

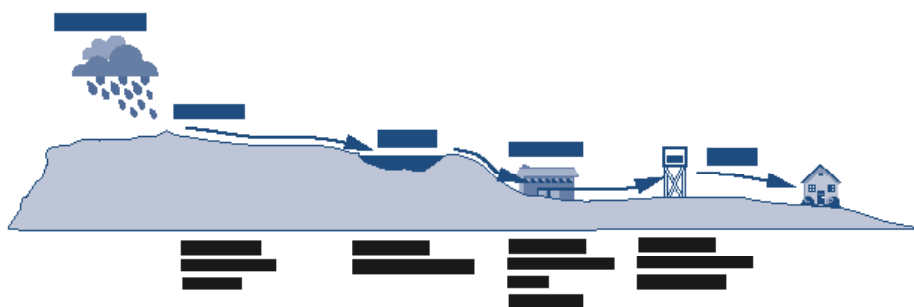
#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 2, Section 10 – The Draft Strategic Land Use Plan: Sub-section 10.8 – Sustainable Management of Water resources and waste water.

### What is Measured

The first four indicators measure the quality of the Island's water at different stages of its collection and treatment (see [Figure 62](#)). The fifth water quality indicator monitors the quality of Guernsey's bathing water.

**Figure 62: Stages in Water Processing**



## Indicator 1: Water Pollution Incidents

### Indicator Measure

#### The number of water pollution incidents reported to Guernsey Water

The amount of fresh water available to the community needs to be of a constant high quality. Water quality also needs to be maintained at a high standard from an environmental perspective and incidents of pollution need to be kept to a minimum ensuring the conservation of Island wildlife.

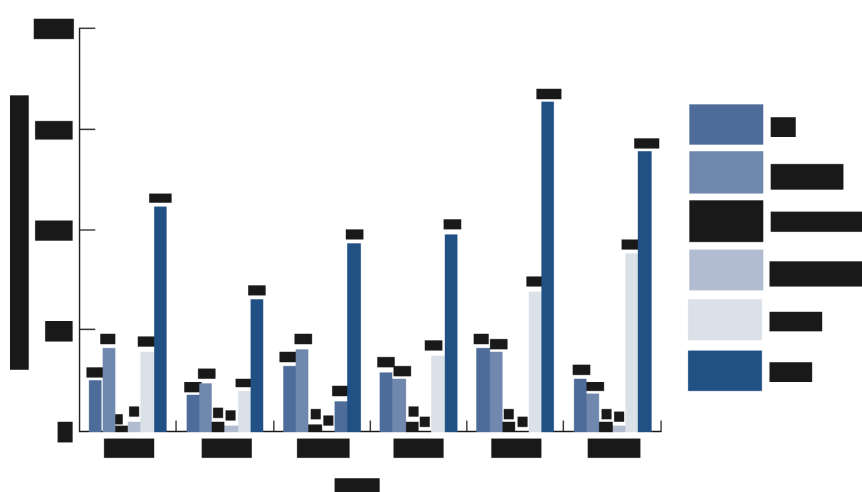
This indicator monitors reported pollution incidents over the last five years. The data provided is categorised according to source and type of pollution over the period of a year.

### Indicator Data

The number of reported pollution incidents for 2003 has fallen by 15% on the previous year's figures, due to significant falls in oil and sewage pollution incidents (**Figure 63**). Reports of sewage pollution fell by 54% on 2002 figures, whilst oil pollution reports fell by 37% compared to 2002 figures.

The only category of pollution incidents to show a significant rise in 2003 is the 'other' category, which has risen by 28%. This category consists of urban run-off from roads and houses and industrial spillage from construction activities, including emulsion paint contamination, odours, silt, and pressure washing run off.

**Figure 63: Reported Pollution Incidents Investigated – 1998 to 2003**



Source: Guernsey Water

# Water Quality

## Indicator 1: Water Pollution Incidents

### Indicator Analysis



These figures represent only the pollution incidents reported to Guernsey Water, excluding any unreported incidents. Guernsey Water has indicated that the increase in reported incidents in 2002 could have been a result of increased awareness amongst the public of the role played by Guernsey Water in responding to public reports.

This being the case the 2002 rise could have been either a more realistic vision of pollution incidents than had previously been recorded or it may have represented an eager response to Guernsey Water's call to report pollution incidents. The drop in the total figures for 2003 may suggest the latter, although they still represent the second highest reported rates of the last six years.

Indicator 2: Raw Water Storage Analysis

Indicator Measure

The quality of the raw water stored in the Island's reservoirs

This indicator outlines the quality of the Island's raw water. This is important as it allows for water pollution mechanisms to be maintained. Water quality samples are taken on a daily basis throughout the week, every week, on all raw water sources that supply water directly to a Water Treatment Works, i.e. St Saviour's and Juas. The Board's largest reservoir, Longue Hougue is tested once per week.

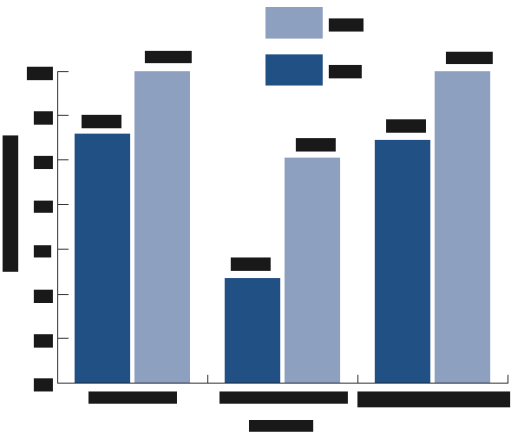
These daily and weekly tests are used to monitor 25 parameters including nitrate and phosphate levels, as well as pH balance. Raw water is not subject to UK Drinking Water Regulations as they apply to treated water supplies only. Guernsey Water uses the Maximum Allowable Concentrations (MAC) for each parameter of the UK Regulations as a benchmark against which raw water quality is assessed. It is in this capacity that compliance data for raw water supplies is reported.

Indicator Data

2003 figures show that Juas and Longue Hougue storage reservoirs were 100% compliant for the elements of nitrate, potassium and ammonia in their storage analysis (Figure 64).

St Saviour's Reservoir was compliant for all these parameters with the exception of nitrate, which was high in ten of the samples taken over the summer period. The water treatment systems that operate in Guernsey ensure the reduction of such nitrate levels to acceptable concentrations. All reservoirs indicate a marked improvement upon 2002 raw water storage analysis figures.

Figure 64: Raw Water Storage – % Compliance With Test Parameters

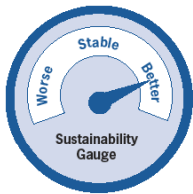


Source: Guernsey Water

# Water Quality

## Indicator 2: Raw Water Storage Analysis

### Indicator Analysis



Raw water quality has improved over the last year in line with the Guernsey Water’s Business Plan targets for continued improvement. This has been achieved by a number of means including the inspection of all business premises whose commercial activities may have an impact on water quality.



## Indicator 3: Water Treatment Works Compliance

## Indicator Measure

**The quality of the Island's water after it has been treated, measured against current UK regulatory benchmarks**

This indicator represents Island water quality measured against current UK regulations. The chemical and biological compounds, which can affect water supply are described in **Table 31** below. These can be more or less prominent due to effects from weather or other external influences. Heavy rainfall and biological activity can have a serious impact on the efficiency of the water treatment processes. New technologies to improve the quality of treated water are being installed at St Saviour's Water Treatment Works in 2004.

**Table 31: Basic Raw Water Compliance Parameters**

Chemical Compound	Description
<b>Nitrates</b>	Nitrates are widely present in substantial quantities in soil, in most water and in plants and foods (one of their principal uses is as fertiliser). Nutrient run off or discharges from agriculture premises, horticulture premises, sewage effluents and leachate from tips and rubbish heaps are the main sources of nitrate imbalance. Nitrates contribute to the eutrophication of stored waters, which can lead to de-oxygenation and fish deaths.
<b>Ammonia</b>	Ammonia is a natural product from the decomposition of dead plants, animal (i.e. organic matter). The presence of ammonia in surface water samples is generally used as an indicator of relatively recent pollution from sewage, foul water or slurry. Ammonia occurs in high concentrations under anaerobic conditions and reacts with oxygen to form nitrates. During water treatment ammonia can react with chlorine gas and produce water of poor taste and odour, sufficient quantities can disrupt chlorination completely. Elevated ammonia levels in raw water in the natural environment can result in fish death due to its toxicity under certain conditions.
<b>Potassium</b>	Potassium concentrations in raw waters are generally low, sewage effluents and nutrient discharges from horticultural premises all contribute to raised levels in raw waters locally. They do not contribute to eutrophication in stored water and levels are not altered by biological activity in storage. Potassium has recently been removed from the UK Drinking Water Regulations, as it does not adversely affect health at the levels usually present in raw water supplies.
<b>Phosphates</b>	Phosphates in surface waters originate principally from sewage effluent (including its detergent content) and also concentrated farmyard manures. Phosphorous is an essential nutrient for algal growth contributing to the eutrophication of surface reservoirs.

Source: Guernsey Water

# Water Quality

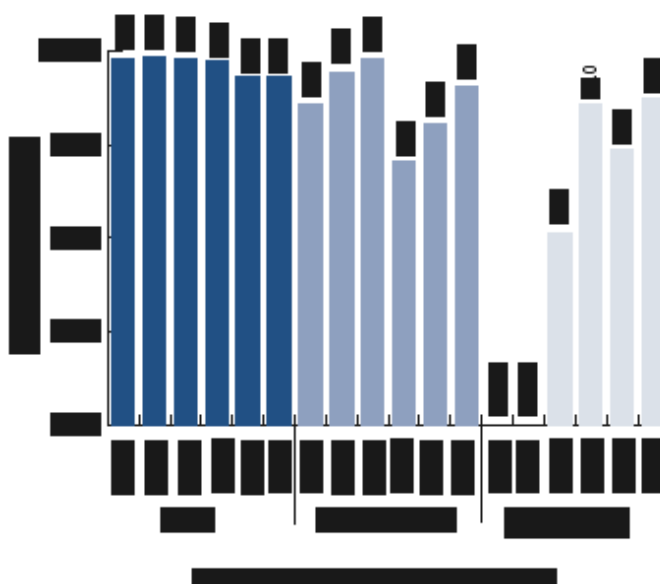
## Indicator 3: Water Treatment Works Compliance

### Indicator Data

The data for this indicator (**Figure 65**) is based upon analysis of water samples taken from the Island's three Water Treatment Works, over the period 2000-2003. The compliance figures have been judged against the UK Drinking Water Regulations set in 2000.

Juas Water Treatment works compliance has remained at 99% compliance from 2002 to 2003. Compliance at St. Saviour's saw a decline in 2001 from 99% to 95%. Since then it has shown a steady rise to 98.7% in 2003. Kings Mills has shown variable levels of

Figure 65: Water Treatment Works Compliance



Source: Guernsey Water

### Indicator Analysis



This indicator shows that Guernsey's water after treatment scores highly in compliance with UK drinking water regulations. The variable compliance ratings for Kings Mills are due to its sporadic operation, as it is not in constant use.

Guernsey Water has announced that one of its business objectives is to attain a greater than 99% compliance for all water produced by its water treatment works

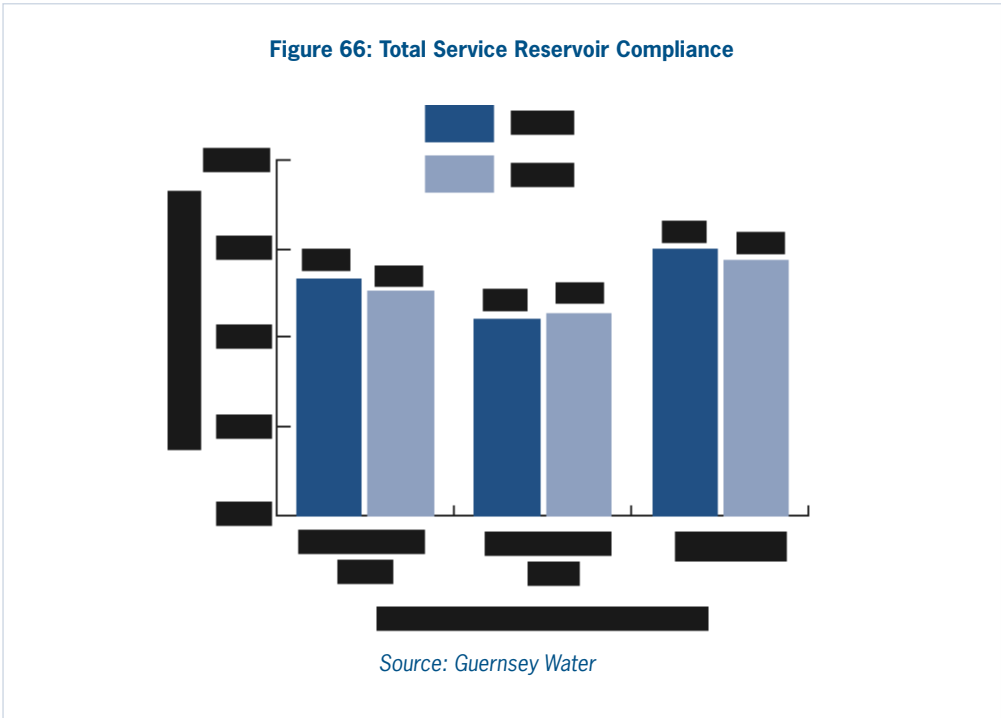
Indicator 4: Service Reservoir Water Quality

The quality of the water stored by the Island's service reservoirs

Service reservoir samples are taken from sample taps connected to the mains that leave these reservoirs, so that samples are indicative of the water within the reservoirs as opposed to that which is supplied to them. This gives a good indicator of the quality of the water stored within the Island's service reservoirs.

Indicator Measure

Water quality compliance at Forest Road West and Frie Plaidy service reservoirs have both been reduced by 0.5% over the last year. Forest Road East Reservoir however has shown a 0.2% increase from the previous year. Whilst Forest Road East Reservoir shows the lowest compliance rating there is less than 1% difference between it and Forest Road West and just over 2% difference with Frie Plady.

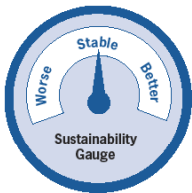


Indicator Data

The three areas shown in **Figure 66** have fluctuating compliance ratings, which are relatively low due to maintenance, security, upgrading and cleaning. These operations are necessary to ensure a consistently high quality of water.

Guernsey Water Board's Business Plan sets a goal of 98% compliance for Service Reservoir quality, which will be achieved through planned maintenance and cleaning of the reservoirs together with targeted investment in water treatment processes.

Indicator Analysis



# Water Quality

## Indicator 5: Bathing Water Quality

### Indicator Measure

#### The quality of the Island's bathing water

Good quality beaches and bathing water are important for the enjoyment of the community, visitors and the benefit of the shore environment. The EC Bathing Water Directive 76/160/EEC is used all over Europe as the standard against which to monitor bathing water quality. Member States must comply with the Directive. Guernsey is not Party to the Directive but monitors bathing water quality against this standard.

The EC Guideline Standard is the top standard and is twenty times more stringent than the Mandatory Standard.

### Indicator Data

**Table 32** shows the number of beaches on Guernsey passing both the EC Mandatory Standard and the EC Guideline Standard. Bathing water testing is currently carried out at 13 beaches once a week for 20 weeks between April and September. **Table 32** shows the EC standards that local beaches have obtained each year since testing began in 1992.

In 2002, the first Guernsey beach failing to reach the EC Mandatory Standard was recorded. In 2003, the Island is back to having 100% of the beaches tested passing either the EC Guideline or Mandatory Standard.

However, since 1997 when 11 beaches attained the Guideline Standard, the number of beaches attaining the higher standard has declined with only 6 beaches reaching this standard in 2003 - less than half of the beaches tested.

## Indicator 5: Bathing Water Quality

### Indicator Data

**Table 32: Bathing Water Standards That Local Beaches Have Attained Each Year Since Testing Began in 1992**

Beach	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Vazon	G	G	G	G	G	G	G	M	G	M	G
Pembroke	G	G	G	G	G	G	G	G	G	G	M
L'Eree	M	G	G	G	G	G	G	G	G	G	G
Port Soif	G	G	G	G	G	G	G	G	M	G	G
Cobo	M	G	M	G	G	G	M	M	M	M	M
Fermain	M	G	M	G	G	G	G	G	G	F	M
Petit Bot	M	G	M	G	G	G	M	G	G	M	M
Havelet	M	G	M	G	G	G	G	M	M	G	G
Ladies Bay			M	M	M	M	M	M	M	M	M
Portelet			G	G	G	G	G	G	G	G	M
Saints			M	G	G	G	G	G	G	G	G
Bordeaux					G	G	G	G	G	G	G
Grandes Roques							M	M	M	G	M

#### Key:

- G = Guideline Pass      95% of the samples pass the EC Mandatory Standard, 80% of samples pass the EC Guideline Standard for total and faecal coliforms and 90% of samples pass the EC Guideline Standard for streptococci
- M = Mandatory Pass      95% of the samples pass the EC Mandatory Standard
- F = Fail

*Source: Environment Department*

### Indicator Analysis

In 2003, all of Guernsey's tested beaches exceeded the EC Mandatory Standard. However, in the same year, the number of beaches passing the EC's Guideline Standard (which is twenty times more stringent than the EC Mandatory Standard) decreased by two on 2002 levels. This means that under half (46%) of Guernsey's beaches tested reached the Guideline Standard. This is the lowest figure for 8 years.

It should be noted that different beaches fail to attain the EC Guideline Standard from one year to the next. This is attributed to reasons such as agricultural and horticultural run off and sewage pollution. It is difficult to source contamination but the Environment Department does try to liaise with other departments and agencies where possible. Once the Island has installed a secondary sewage treatment system, the likelihood of all 13 beaches tested passing the EC Guideline Standard should be increased.



## References and Further Reading

### Further Reading

#### **The Marine Conservation Society's Good Beach Guide**

[www.goodbeachguide.co.uk](http://www.goodbeachguide.co.uk)

#### **Biological Indicators of Freshwater Pollution and Environmental Management**

Elsevier, London and New York,  
Hellawell, J.M. (1986)

### Organisations

#### **Public Services Department**

Guernsey Water  
South Esplanade  
St Peter Port  
Guernsey  
GY1 3AS  
Tel 724552  
Fax 715094

#### **Environment Department**

Sir Charles Frossard House  
PO Box 43  
La Charroterie  
St Peter Port  
Guernsey  
GY1 1FH  
Tel: 717200

#### **DEFRA – Department for the Environment, Food and Rural Affairs**

Ergon House  
17 Smith Square  
London  
SW1P 3JR  
Tel: 08459 3355 77  
Fax: (0) 207 2383 329  
Website: [www.defra.gov.uk](http://www.defra.gov.uk)

## References and Further Reading

### Organisations

#### **Marine Conservation Society**

9 Gloucester Road  
Ross-on-Wye  
Herefordshire  
HR9 5BU  
Tel: 01989 566017  
Fax: 01989 567815  
Web: [www.mcsuk.org](http://www.mcsuk.org)

#### **ENCAMS**

Elizabeth House  
The Pier Wigan  
WN3 4EX  
Tel: 01942 824620  
Fax: 01942 824778  
E-mail: [enquiries@encams.org](mailto:enquiries@encams.org)  
Web: [www.encams.org](http://www.encams.org)

### Websites

#### **Seaside Awards for Rural Beaches (ENCAMS)**

[www.seasideawards.org.uk](http://www.seasideawards.org.uk)

#### **Eurobeaches**

Web: [www.eurobeaches.com](http://www.eurobeaches.com)  
E-mail: [webmaster@eurobeaches.com](mailto:webmaster@eurobeaches.com)





# Water Resources

## Headline Indicator

### Snapshot

- Although extra storage facility has been introduced, water consumption is continuing to rise (by nearly 4% in the last year alone) as more properties are connected to the Island's water supply.
- Although water losses have increased, extra measures have been put in place to detect leakage.

### Trends

In 2003 raw water storage reached 100% capacity despite the previous year's warm, dry summer. The number of new properties connected to the water supply has steadily risen by 5% since 1998. Subsequently the amount of potable water supplied has also increased by 14% since 1998. The estimated amount of water lost through leakage has also increased to 1,020 Megalitres (MI) from 988 MI the previous year, indicating a need to invest in upgrading the distribution system to prevent distributional losses.

### Connections

Responsible water use is essential for sustainable development. An adequate supply of water is fundamental to the Island's quality of life, for example, the health of the community, water quality and its economic performance. Future water resources depend very much on infrastructure and consumer behaviour patterns. The shift towards the community having a metered supply is beneficial in terms of managing supply and is cost effective for the user.

Access to a good water supply is important to:

**Health** – water is essential to sustain human life and therefore safe, clean water is vital to the health of the community. Health can be affected by waterborne diseases and poor sanitation. *"Poor health leads to reduced individual productivity and lost development opportunities."* (UN Millennium Goals, Press Release ENV/DEV/766. 2004.



[see page 21](#)

**Water Quality** – safe drinking water impacts on the health of the community. Once water enters the distribution system, from which it is available to the consumer, it is essential that it is of a good quality. *"Water and sanitation is crucial for human health, stability and prosperity"* (EU 'Water for Life' initiative. 2002)



[see page 147](#)

# Water Resources

## Connections, Policy Objectives and What is Measured

### Connections

see page 81



**Economic Performance** – water is essential to all sectors of the economy, public, industrial, tourist, agriculture and horticulture, particularly in Guernsey. Developing and upgrading water facilities is expensive and at global level, water demand management is a big target. It is essentially an efficiency concept which includes “more crop per drop”, plugging leaks and improving technology.

see page 171



**Land Use** – concentrations of nitrates that have run off the land into the Island’s streams reflect on the water quality of the surrounding raw water reservoirs. This raw water is the Island’s only water resource and the first stage in supplying clean water to the consumer.

### Policy Objectives

**To ensure a dependable supply of water from the Island’s natural water resources and to minimise levels of “unaccounted for water”.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 2, section 10.8.1 – Draft Strategic Land Use Plan.

### What is Measured

Water resources available for use on the Island are a combination of the amount of raw water available (raw water collection and storage), and the amount of this water which is used by consumers. These supply and demand factors are measured by this indicator.

Raw water collection (the supply side) is measured by depicting the stored raw water volume as a percentage of total capacity. The demand side is measured by looking at the number of properties connected to the water supply, the amount of potable water produced from water treatment works and the amount of potable water used by consumers. Finally, the difference between demand and supply is measured through distribution losses and water used for operational cleaning purposes, which shows the efficiency with which water is transported from source to customer.

Indicator 1: Raw Water Storage

The amount of raw water stored on the Island

Raw water storage is the very first stage in the sequence of gathering water from natural sources and delivering it to the storage reservoirs. Raw water storage is measured at this first stage and indicates the volume of stored water available at the end of March each year.

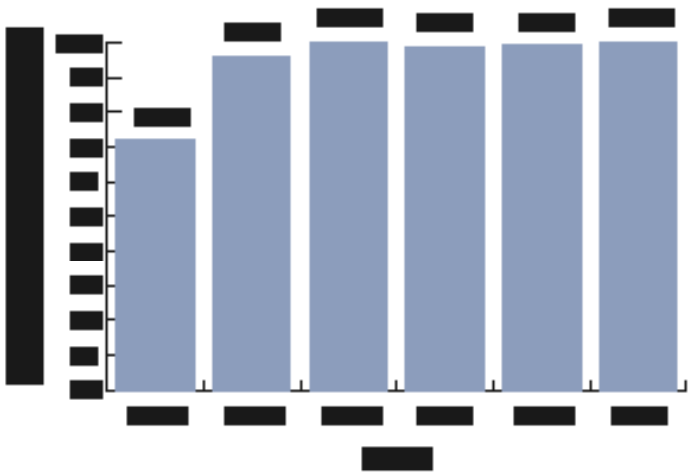
Indicator Measure

Indicator Data

Guernsey Water has 15 storage reservoirs and quarries at present. There are also a number of private boreholes, fed from an underground aquifer, which are not included in Guernsey Water’s statistics.

The addition of St Andrew’s Reservoir to the Island’s water storage capacity has increased the volume of water stored by 425 megalitres (roughly one month’s supply).

Figure 67: Raw Water Storage as a Percentage of Total Storage Capacity



Source: Guernsey Water

Since 1998 water storage statistics have not fallen below 90% and with an additional raw water storage facility, the storage as a percent of total capacity is now at 100% (Figure 67). This means that maximum use is being made of the raw water resources available in the Island.

Indicator Analysis



# Water Resources

## Indicator 2: Properties Connected to the Island's Water Supply

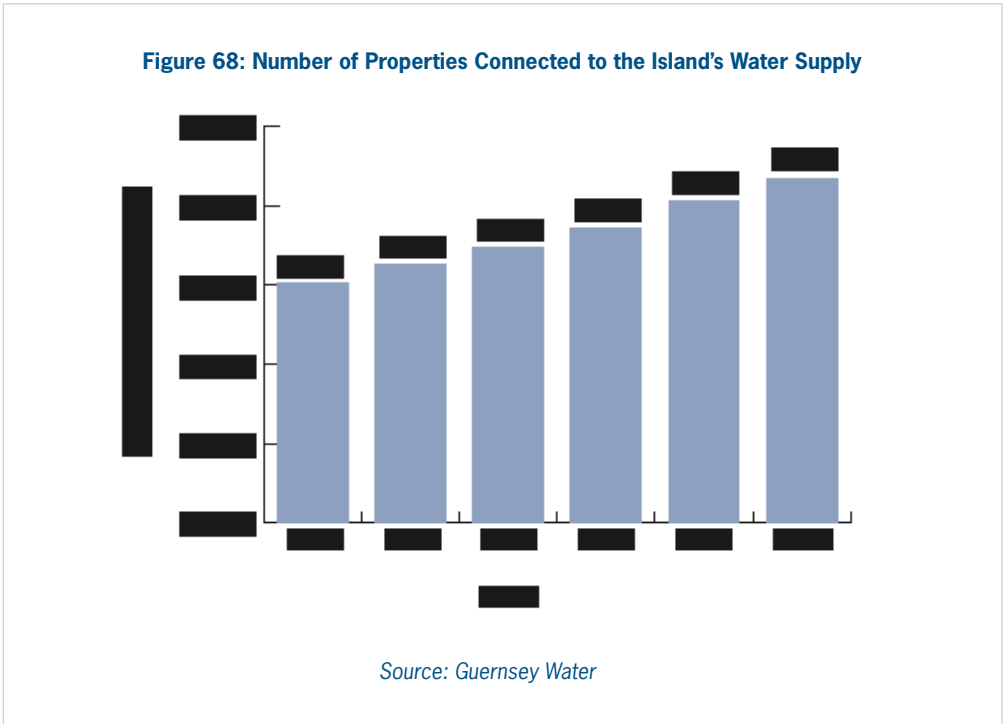
### Indicator Measure

#### The scale of demand on the Island's water supply

The number of properties connected to the Island's water supply gives an indication of the amount of new consumers there are each year. As the second stage in the monitoring sequence it depicts the scale of the demand for water from the raw resource.

### Indicator Data

Since 1998, the number of connected properties has steadily risen culminating in the 2003 level as shown in **Figure 68**. It is anticipated that this level will keep on rising over the next few years.



### Indicator Analysis



Since 1998 there has been a 5% rise in the number of new properties connected to the Island's water supply. It is expected this number will continue to rise in the coming years. This means that unless average domestic consumption levels fall (see indicator 4 on page 167) there will be further demands placed upon the availability of water supplies on the Island. As the number of properties connected to the Island's water supply increases (**Figure 68**), and average domestic consumption levels increase (**Figure 70**), further demands will be placed upon the Island's water resources.

Indicator 3: Potable Water Supplied

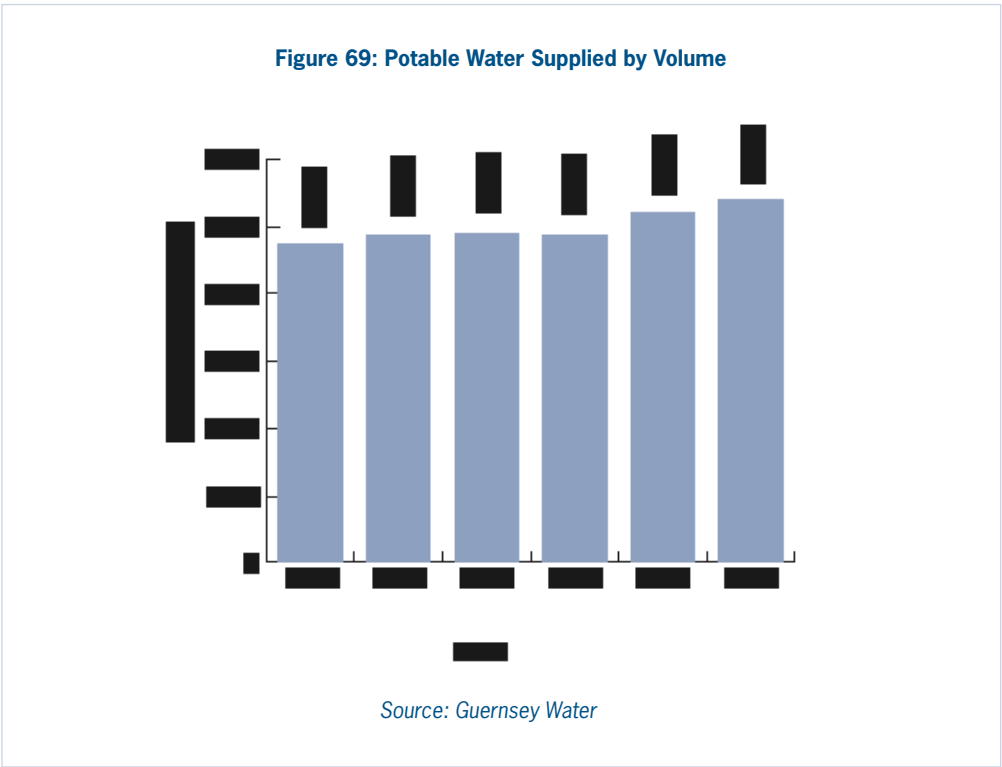
Indicator Measure

Volume of potable water supplied to the Island

As the third stage in the monitoring sequence of water resources, this indicator represents the amount of water produced from the treatment works. It indicates the amount of potable water that is produced from the stored raw water.

Indicator Data

**Figure 69** indicates the amount of potable water supplied to the Island. It shows that the volume supplied reached a peak of 5,396 Megalitres in 2003.

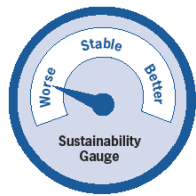


The demand for water has increased by 3.8% over the last year. Guernsey Water's Business Plan forecast an increase of only 1% per annum. If this increase in demand were to continue for the next 10 years then consumption would reach a figure of 8,000 megalitres per annum. In comparison, the forecast for 2015 in Guernsey Water's Business Plan is 5,540 megalitres. The storage of water would then be equivalent to 6.5 months rather than the present 9.6 months. This increase can be attributed to a number of factors such as a dry summer, increased building activity, increased main drainage and Guernsey Water's limited understanding of the ageing pipe network system. Guernsey Water is directing significant resources towards addressing the latter.

# Water Resources

## Indicator 3: Potable Water Supplied

### Indicator Analysis



Since 1998, potable water supplied by volume has increased by 14% with the largest increases occurring in the last 2 years. If demand continues at this pace, the storage of water measured in equivalent months would decrease significantly.

Indicator 4: Annual Water Consumption

Indicator Measure

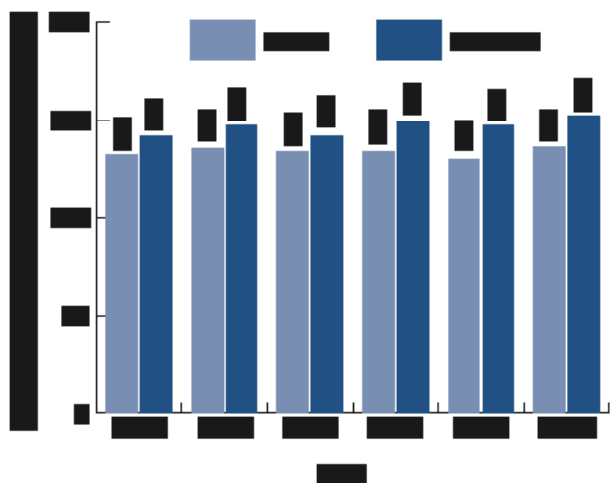
Consumption of water from both metered and un-metered supplies

This indicator illustrates the difference between the annual average consumption of domestic metered and un-metered water supplies. Metered water consumers pay for the amount of water that they use, whereas un-metered consumers pay a fixed fee based upon the rateable value of the property. Universal metering is seen to be the way forward as it encourages everyone to make more efficient use of water.

Indicator Data

**Figure 70** shows the average potable water supplied in cubic metres to each domestic supply per annum. The average amount of water used by consumers per year has increased on both metered and unmetered supplies. This effect can be attributed to an increase in the number of household appliances that use water (e.g. power showers and Jacuzzis) and the fact that as the Island moves further away from the last occurrence of water restrictions, (which were in 1997) the increased tendency by customer is to use more water.

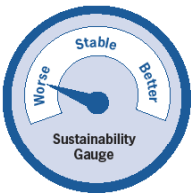
Figure 70: Yearly Average Amount of Potable Water Supplied Per Domestic Supply



Source: Guernsey Water

Although consumers are being encouraged to transfer to a metered supply, the average consumption of both metered and unmetered water has increased since 2002. Customers are not being as economic with their consumption as they were a year ago even though water is a limited resource.

Indicator Analysis



# Water Resources

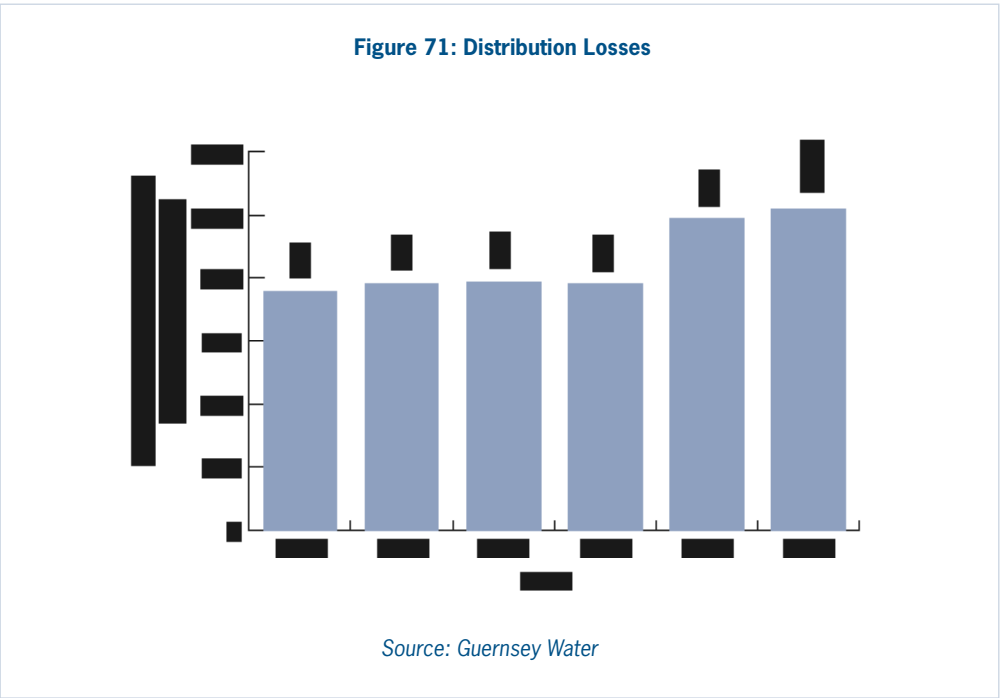
## Indicator 5: Water Distribution Losses

### Indicator Measure

**The efficiency of the Island's water distribution system**

This final indicator in the monitoring sequence shows the efficiency of the water distribution system and provides an insight into the efficiency with which water is transported from source to consumers.

### Indicator Data



The increased number of leaks (**Figure 71**) highlights the need to invest in the modernisation of the existing distribution system. Guernsey Water is prioritising mains replacement and increasing leakage detection effort. Three new district metering areas will be introduced by the end of 2004. District meters are meters that are placed on the distribution network and measure the flow of a large area on the network. If the flow unexpectedly increases, this is more than likely due to a leak and an investigation will subsequently be carried out. These new metering areas will increase the proportion of metered area on the distribution network from 70% to 85%.

Due to two or three particularly major water bursts and increased distribution mains cleansing, there has been an increase in estimated distribution losses in the last two years; there were 757 Megalitres (MI) of water lost in 1998 compared to 1,020 MI in 2003 representing an increase of nearly 35%.



## Indicator 5: Water Distribution Losses

### Indicator Analysis

Water is a scarce resource, and distributional losses need to be minimised to increase the efficiency by which water is supplied to customers. The increase in the volume of water unaccounted for is another indicator that the water distribution network needs urgent attention.



# Water Resources

## References and Further Reading

### Further Reading

#### **The World's Water: The Biennial Report on Freshwater Resources**

Peter H. Gleick, Island Press, Washington, D.C.

### Organisations

#### **Public Services Department**

Guernsey Water  
South Esplanade  
St Peter Port  
Guernsey  
GY1 3AS  
Tel 724552  
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#### **Defra - Department for the Environment, Food and Rural Affairs**

Ergon House  
17 Smith Square  
London  
SW1P 3JR  
Tel: 08459 335577  
Fax: (0) 207 2383 329  
Website: [www.defra.gov.uk](http://www.defra.gov.uk)

#### **Water UK (Ex Water Services Association)**

1 Queen Anne's Gate  
London. SW1H 9BT  
Tel: 0207 344 1844  
Fax: 0207 344 1866  
Web: [www.water.org.uk](http://www.water.org.uk)

### Websites

#### **The World's Water: Providing information on the world's freshwater resources**

[www.worldwater.org](http://www.worldwater.org)

#### **International Water Resources Association**

Information on resources as well as information on the practicalities of water saving methods - [www.iwra.siu.edu](http://www.iwra.siu.edu)

#### **United Nations**

Millennium Goals and EU "Water for Life" Initiative - [www.un.org](http://www.un.org)

### Snapshot

- The built environment accounts for 2,338 acres (15%) of Guernsey's total landmass.
- Land available for public amenity makes up 4,007 acres (26%) of the Island's total landmass. 3,156 acres (78%) of this is owned by the Crown and managed by the States Environment Department.
- Nitrate levels, which are used to measure land quality on the Island have shown a 33% decline over the last seven years.

### Trends

Buildings over 10m<sup>2</sup>, (including domestic, commercial and public premises), and roads and car parks account for 73% of all the Island's built environment. Glasshouses account for a further 21%, and the Airport 4%. Historic buildings, such as the Island's churches, castles, forts and other heritage sites account for only 0.5% of the Island's built environment.

Land used for public amenity is divided amongst a number of land owner/ managers. The Environment Department manages 86% of the total land available for public amenity, of which, 78% is owned by the Crown and 8% owned by the States of Guernsey.

Overall levels of nitrates in the Island's waterways are decreasing due to reductions in fertiliser used by the horticultural and agricultural industries, partly reflecting the success of the former Agriculture and Countryside Board's policies for 'farming with wildlife in mind'. The use of concentrate fertilizers in private gardens is being increasingly recognised as contributing to the remaining nitrate levels on the Island.

### Connections

The land use indicator connects to many other indicators and is cross-cutting in nature. The Island's limited land space and currently buoyant economy, exemplified by the "overheated" construction industry has placed demand on land availability.

*"Our aim should not be a landscape frozen in time. What we treasure today is the result of centuries of gradual change. Some change is inevitable, allowing for activities such as local enterprise, agriculture, forestry and renewable energy production, or to meet **housing** needs. But change must be well-managed."*

Sustainable Development the UK Government's Approach, [www.sustainable-development.gov.uk/areas/subject/env\\_nat\\_res6.htm](http://www.sustainable-development.gov.uk/areas/subject/env_nat_res6.htm), 2004.



see page 63

# Land Use

## Connections, Policy Objectives and What is Measured

### Connections

Land use also connects to the following indicators:

see page 193



**Local Transport** – “Since the introduction of the motorcar, populations have slowly spread outwards from urban centres. Dispersal occurred as people looked for cleaner and quieter environments to live and work in, away from busy centres. As cars became more affordable, people were able to travel out of built-up areas easily. This in turn led to an increase in the length of journey that people made, and an increase in the number of cars on the roads.” Encyclopaedia of the Atmospheric Environment, Manchester Metropolitan University, 2003.

see page 125



**Biodiversity** – “Humans’ greatest impact on biodiversity is the alteration and destruction of critical habitats, which occurs mainly through changes in land use: draining of wetlands, clearing of land for agriculture, and pollution of the environment.” Land Use and Global Environmental Change, Centre for International Earth Science Information Network, 2004.

see page 147



**Water Quality** - Nitrate levels in the Island’s water catchment streams reflect land use, specifically the over use of fertilisers. “Land use is closely related to water resource management because of the critical need to protect aquifers and other fresh-water resources from the harmful effects of human settlements. Special attention should be paid to guiding potentially hazardous activities away from the fragile areas. Oceans and coastal areas should be protected from land-based sources of pollution.” The United Nations Habitat Agenda, Section IV C. Sustainable human settlements development in an urbanizing world, 2. Sustainable Land Use, Para 110. United Nations Human Settlements Programme, [www.unchs.org/unchs/english/](http://www.unchs.org/unchs/english/).

### Policy Objectives

**To provide opportunities to meet the identified housing, commercial, community, countryside, water and waste requirements of the Island, with minimal impact upon the environment and with design that helps raise the quality of Island life.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 2, Section 10 – Draft Strategic Land use Plan.

#### **See Also:**

2002 Urban Area Plan (section 5.2).

2004 Rural area Plan.

## Connections, Policy Objectives and What is Measured

### What is Measured

The built environment on the Island is measured as a percentage of the Island's total landmass. The area of land made available for public amenity on the Island is measured according to the owner or manager of the land. Land quality is measured via nitrate monitoring of the Island's stream catchment areas. Nitrate levels provide a good indication of land quality.

# Land Use

## Indicator 1: Land Use

### Indicator Measure

#### Percent of land used for the built environment

Meeting the needs of the community and business whilst protecting and enhancing the Island’s natural environment requires a balanced approach to development. This indicator measures the built environment on the Island as a percentage of the Island’s total landmass. This data is provided via the States Digimap system, which uses digitised images of the Island. The measurements provided outline the buildings infrastructure only and do not include any joining land parcels, such as garden curtilage.

Undeveloped land includes all land that is not physically the built environment, including all garden curtilage, farmland, playing fields, golf courses, and beaches. It is important to note that whilst much of this land may not be classified as the built environment in this indicator, for planning purposes it will often be linked to, or classified as developed land.

The built environment is separated into “buildings”, which consists of all buildings over 10m² in area, (including domestic, commercial and public premises), and “small developments”, which groups together all buildings under 10 m², and includes toilets, private oil tanks and swimming pools.

“Roads and car parks” have been calculated together, as well as all “greenhouses” on the Island, (commercial and private). The Airport has been calculated as a whole area, including runway, apron, terminal buildings, hangers and car parks. The Island’s historic buildings including churches, castles, forts and other heritage sites make the final category.

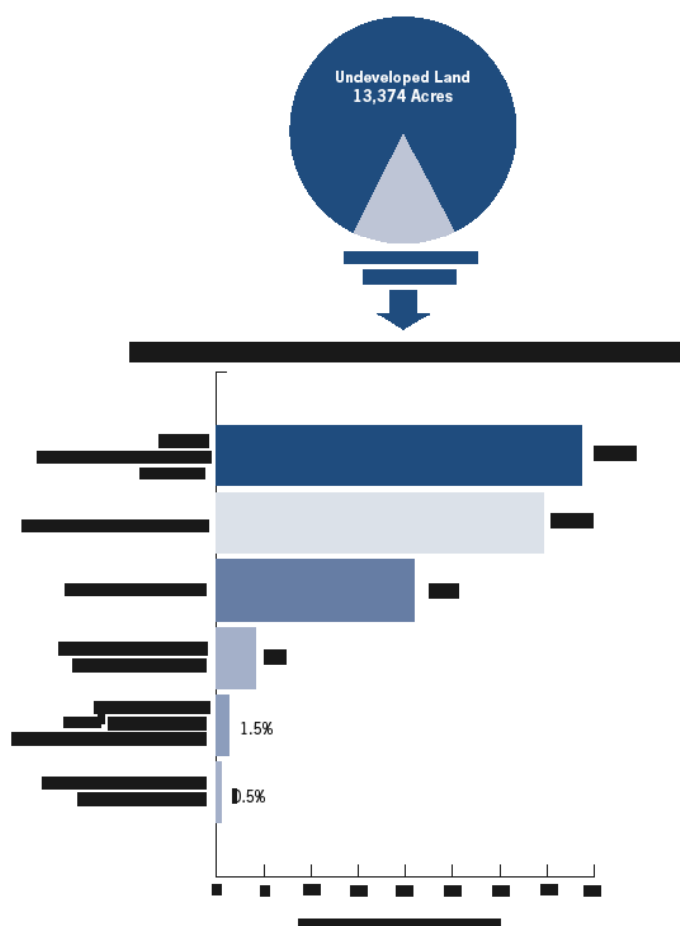
### Indicator Data

**Figure 72** shows that the built environment consists of 2,338 acres (15%) of the Island’s total landmass. This area is presented in more detail in the bar chart in **Figure 72** which shows a percentage breakdown of the total built environment land area. At 903 acres (38.5%), buildings (over 10 m²) make up the largest category of the Island’s built environment, accounting for all domestic housing as well as commercial and public premises. Roads and car parks make up a slightly smaller percentage figure, covering 810 acres of the Island, or 34.5% of the built environment.

The third substantial category of development on the Island is commercial and private glasshouses, at 490 acres (21%) of the Island’s built environment. The remaining six percent of total Island development is split between the Airport which forms 96 acres (4%), small developments which form 29 acres (1.5%), and the Island’s historic buildings, which account for 10 acres (0.5%) of the Island’s built environment.

### Indicator Data

**Figure 72: Development in the Island as a Percentage of the Island's Total Built Environment as at March 2004**



Source: Digimap

**Figure 72** shows, that the built environment covers 2,338 acres (15%) of the Island's total landmass. Whilst the built environment is spread throughout the Island, this indicator provides a benchmark from which the extent of building can now be monitored.

Building upon previously developed land is one way in which the impact of development can be made more sustainable, and the extent of the built environment prevented from increasing.

### Indicator Analysis



## Indicator 2: Land Used for Public Amenity

### Indicator Measure

#### **Area, type and ownership of land made available for public amenity**

The amount of land available for public and visitor enjoyment is an important indicator of the quality of life available to the Island's community. Land used for public amenity consists of a wide range of land types and land owner or managers.

This indicator measures the total areas of land made available for public amenity by land owners or managers on the Island. Land owners or managers include, the Crown (managed by the Environment Department), the States of Guernsey (Environment Department), Vale Commons Council, La Société Guernesiaise, Culture and Leisure Department and the National Trust.

The figure provided for each owner or manager is in most cases an amalgamation of a number of different sites located throughout the Island. The figures are presented as a percentage of the 4,007 acres (26%) of the Island's total landmass, with acreage figures provided in the key.

### Indicator Data

**Figure 73** shows that the total quantity of the Island's landmass available for public amenity is 4,007 acres (26%).

**Figure 73** also provides a breakdown of the total land area used for public amenity. It shows that, 3,156 acres (78%) of the total 4,007 acres of land available for public use is owned by the Crown. This is managed by the Environment Department and is mostly intertidal coastal land.

States land, which is managed by the Environment Department consists of 314 acres (8%) of the total land available for public amenity, this consists of parks, gardens, cliffs and former quarries. Land at Vale Common, which is managed by the Vale Commons Council, comprises 300 acres (7.5%) of public amenity land, which includes the majority of L'Ancrese Common.

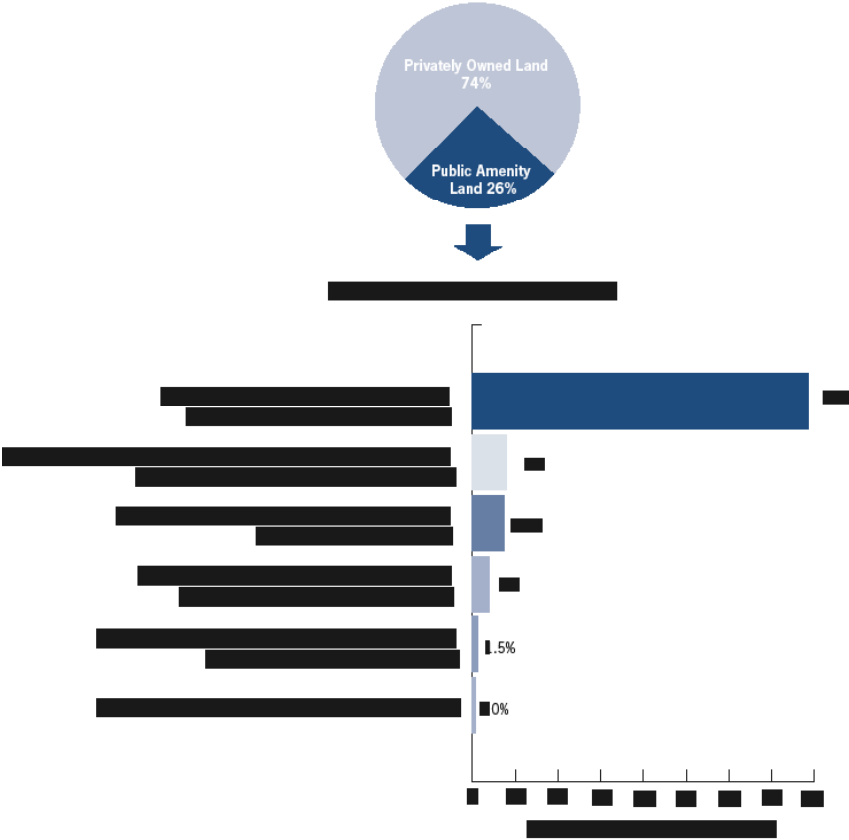
La Société Guernesiaise manages 158 acres (4%) of land for conservation purposes. This includes both land owned by La Société Guernesiaise together with land managed on behalf of other organisations, such as Guernsey Water. The Culture and Leisure Department also manages sports playing fields and parks on the Island. This covers 50 acres (1.5%) of the total land available for public amenity. The Guernsey National Trust also owns and manages heritage sites, which include historical parks and gardens, contributing the remaining 29 acres (1%) of the total land available for public amenity.



Indicator 2: Land Used for Public Amenity

Indicator Data

Figure 73: Area Used for Public Amenity as a Percentage of the Island's Landmass and Breakdown of Public Amenity Land by Owner/Manager



Source: Environment Department, Vale Commons Council, La Société Guernesaise, Culture and Leisure Department, National Trust.

Land owned by the Crown and managed by the Environment Department contributes the majority of land available for public amenity on Guernsey. The Environment Department manages a further 314 acres of States Land, resulting in the Environment Department managing 86% of all the land made available for public amenity.

Indicator Analysis



## Indicator 3: Land Quality

### Indicator Measure

#### Water catchment nitrate levels (mg/l)

To determine Guernsey's land quality accurately, Guernsey Water has developed nitrate data from stream catchments around the Island. The nitrate concentrations of a stream reflect the land use of its surrounding area. Although nitrates are necessary for natural decomposition, high levels can be harmful to humans, animals, fish and plants. Nitrate is a compound containing nitrogen and water. Nitrogen is produced as a result of decomposing organic materials like plants, manure and human wastes.

### Indicator Data

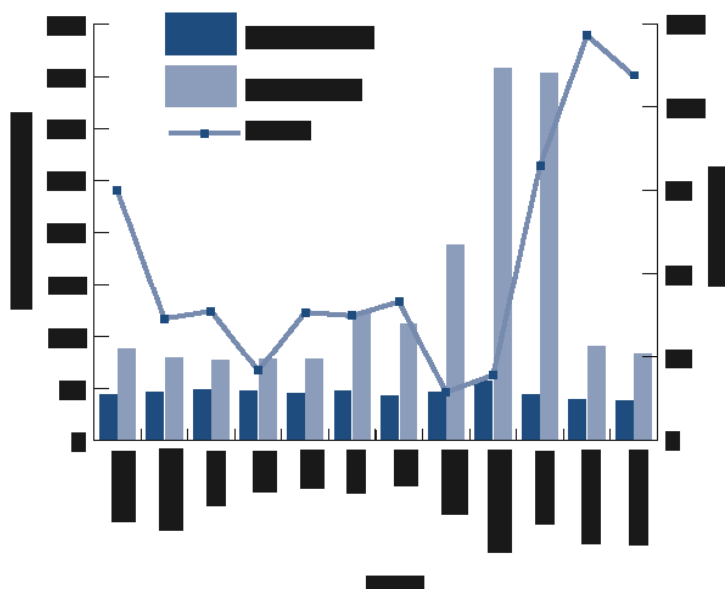
Guernsey Water collects samples on a weekly basis from twenty four stream catchment areas within the Island. These samples are tested to determine nitrate concentrations. Guernsey Water uses the 1989 UK Drinking Water regulation's Maximum Admissible Concentration or MAC as a benchmark to assess nitrate concentrations. This currently stands at 50mg/l (50 milligrams per litre). Rainfall levels are also recorded as these have a strong bearing upon the amount of nitrate leaching into the stream catchments.

**Figure 74** shows the average monthly nitrate levels recorded for 2003 for the whole of the Island. It also shows the maximum nitrate levels recorded for each month. Whilst the mean average nitrate figures for each month in 2003 show that they were contained under the 50mg/l benchmark, the month of September shows a peak figure of 60mg/l. This peak also occurs in the maximum figures recorded, with the months of September and October recording maximum levels of nitrate over three times that of the first five months of the year. The high rainfall levels for these months, higher than at any other point in the year, helps to explain these peaks.

**Figure 75**, shows how the annual average nitrate levels for the Island over the last nine years have gradually declined, from the 1996 peak of 73 mg/l to the 2003 figure of 49 mg/l, a 33% reduction. The maximum nitrate values indicate a greater reduction than the average trend, 47% from 1996 figures to 2003 figures. This is significant as large nitrate fluctuations reflect unmanaged or unregulated land use activity.

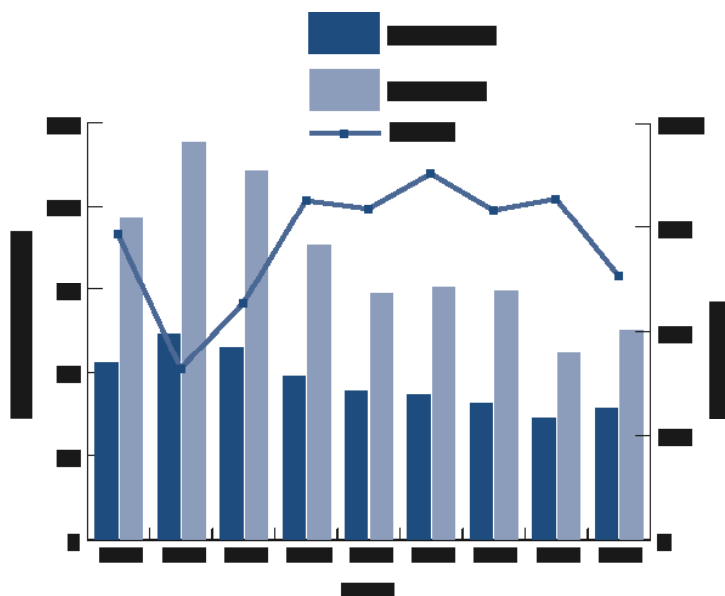
The first rise in annual nitrate figures for eight years was measured in 2003. It is too early to draw conclusions from this as it may be a reflection of the unusually warm summer and lack of rainfall experienced by the Island in 2003. However comparison with nitrate levels recorded in 1997 (a year with a similar amount of rainfall) show that 2003 had 30% lower nitrate levels recorded.

Figure 74: Mean and Maximum Monthly Nitrate Levels for 2003



Source: Guernsey Water

Figure 75: Mean and Maximum Monthly Nitrate Levels - 1995 to 2003



Source: Guernsey Water

# Land Use

## Indicator 3: Land Quality

### Indicator Analysis



It is predominantly agricultural and horticultural use of inorganic and organic fertilisers, which has contributed to high nitrate levels leaching into the Island's stream catchments. Whilst the 33% reduction in nitrate levels that has taken place since 1996 in part reflects the decline of the horticultural industry it also reflects the more effective control measures introduced by States departments. One such example is the former Agriculture and Countryside Board's "farming with wildlife in mind" whole farm contracts.

## References and Further Reading

### Further Reading

#### **The Challenges of Environmental Management in Urban Areas,**

Atkinson, A., Davila, J., Fernandes, E., and Mattingly, M. (Eds), (1999), Ashgate, Aldershot.

### Organisations

#### **Digimap Ltd**

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#### **Environment Department**

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#### **Public Services Department**

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#### **Vale Commons Council**

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#### **National Trust of Guernsey**

Web: [www.nationaltrust-gsy.org.gg](http://www.nationaltrust-gsy.org.gg)

## References and Further Reading

### Organisations

#### **La Société Guernesiaise**

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Website: [www.lasociete.org.gg](http://www.lasociete.org.gg)

#### **Culture and Leisure Department**

Beau Sejour Leisure Centre  
Amherst  
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#### **DEFRA – Department for the Environment, Food and Rural Affairs**

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# Household and Commercial Waste

## Headline Indicator

### Snapshot

- Guernsey's household waste production continues to rise. 2003 figures were 4% higher than those for 2002.
- Industrial and commercial waste has maintained the dramatic rises shown over the last five years, rising by over 36% on last year's figures.
- The quantity of waste recycled also continues to rise steadily.

### Trends

Guernsey households are consistently producing more waste; 4% more waste was produced in 2003 than in 2002 and 10% more than in 1999. In 2003, 19% of household waste was recycled in Guernsey. This compares well with the England which recycles 12%<sup>1</sup> of household waste, but poorly with other European countries; such as Switzerland (52%), Austria (50%), Germany (48%) and the Netherlands (46%)<sup>2</sup>.

Commercial waste disposed of at Mont Cuét (biodegradable waste) in 2003 decreased by 5% on 2002 levels. This decreasing trend began in 2001 from a level of 59,249 tonnes. The figure has dropped to 43,132 tonnes, a 37% drop in two years.

The amount of inert commercial waste deposited at Longue Hougue reclamation site has increased dramatically over the last five years. In 2003, 36% more inert commercial waste was produced than in 2002, a staggering 372% more than in 1999.

The total quantity of waste recycled under Environment Department operated schemes rose by 17% in 2003 compared with 2002 figures. A large (74%) increase in recycled scrap metal, originally intended for landfill, was the main contributing factor to this rise.

### Connections

Waste disposal connects to the environmental indicators **land use, air quality and water quality**, through leachate into groundwater and the release of polluting gases such as methane, produced through decomposition. The long term effects of these connections impact upon the quality of life and **health** of the Island's population and the well-being of its ecology and biodiversity.



see pages  
171,133,147



see page 21

<sup>1</sup> Municipal Waste Management Survey, 2001-2002, Department for Environment, Food and Rural Affairs

<sup>2</sup> Friends of the Earth, European Recycling Press Release, 2002.

# Household and Commercial Waste

## Connections, Policy Objectives and What is Measured

### Connections

*“The problem of waste disposal is only one side of the story. The amount of waste we produce is the result of our unsustainable lifestyle. Our current pattern of production and consumption must be adapted to minimise pressure on the Earth’s (non-renewable) resources. In short, waste production is one of the best indicators of our progress towards sustainable development.”<sup>3</sup>*

see page 81



Waste disposal is also connected to **economic performance** as the cost of waste disposal is set to rise. In order to prolong the life of the Island’s landfill site from 10 years to 70 years, a new energy from waste plant is planned. This however will not remove the need to minimise waste at source.

The dramatic 372% increase of inert waste produced on Guernsey since 1999 is primarily a result of the considerable construction occurring on the Island.

### Policy Objectives

**The Environment Department’s current waste management policies seek to prolong the life of Mont Cuét landfill site by operating recycling schemes and by encouraging segregation of putrescible and inert waste. In addition, the Department seeks to optimise the use of inert waste by utilising it to undertake high priority reclamation and land raising schemes.**

**The Environment Department is currently preparing a Waste Management Plan to provide a comprehensive strategy for the future management of the Island’s solid wastes. The Waste Management Plan will detail the infrastructure and operational arrangements for dealing with all types of solid waste along with supporting policy, legislation and organisational arrangements. The Waste Management Plan will cover a planning period extending to twenty years after the date when the proposed energy from waste plant is commissioned.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 2, Section 10 – Draft Strategic Land Use Plan.

2003 Policy and Resource Plan, Part 2, Sub-section 10.8 – Sustainable Waste Management.

<sup>3</sup> EU Focus on Waste Management, European Commission, Directorate-General, 2000.



# Household and Commercial Waste

## Connections, Policy Objectives and What is Measured

### Indicator Measure

The amount of household waste collected annually is monitored through parish waste collections, bulk waste collections, litter collections, civic amenity site usage (drop-off skips at Mont Cuet), and household waste that is recycled. Commercial and industrial waste is monitored via the biodegradable waste taken to Mont Cuet landfill and the inert waste deposited at Longue Hogue. Recycled waste collected by the Environment Department is also monitored.

# Household and Commercial Waste

## Indicator 1: Household Waste

### Indicator Measure

#### Amount and type of household waste collected annually

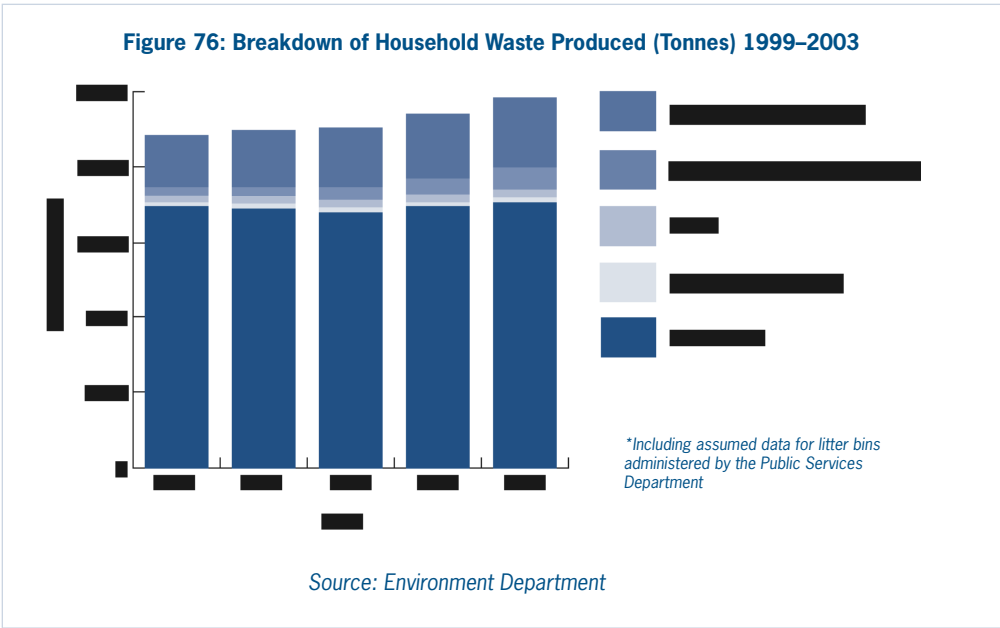
Monitoring the amount of household waste produced each year, not only creates a picture of what the future requirements for the Island are in terms of landfill/incineration capacity, but also informs the development of policies aiming to reduce the amount of waste requiring disposal. A reduction in the amount of household waste being landfilled would imply that households are recycling, composting and making a conscious effort to minimise the waste that they produce.

The potential benefits brought by sustainable waste minimisation strategies are broad, such as the reduction of public costs in waste removal, the reduction in land used for landfill, as well as pollutant reduction from leachate and methane build-up.

### Indicator Data

The format and data used for this indicator has been developed from last year, to provide a better understanding of household waste production on the Island. This year the following additional categories of household waste have been monitored: bulk waste collections, litter, non recyclable waste deposited at the civic amenity site (drop off skips at Mont Cuet), and household waste recycled.

**Figure 76** provides a breakdown of household waste produced annually on the Island from 1999 – 2003. **Table 76** shows the annual rise of household waste as a percentage figure.



# Household and Commercial Waste

## Indicator 1: Household Waste

### Indicator Data

**Table 33: Annual Percentage Increase in Household Waste**

	1999	2000	2001	2002	2003
Percentage Increase in Quantity of Household Waste Produced on Previous Year	N/A	1.5%	1.0%	3.8%	4.5%

Source: Environment Department

**Figure 76 and Table 33** show that the total amount of waste produced by householders in Guernsey continues to rise year on year. In 2003, 20,671 tonnes of waste was produced, some 4.5% more than was produced in 2002 and 11% more than was produced in 1999. Of this, 3,914 tonnes of household waste was recycled in 2003, equating to a recycling rate of 19% of all household waste produced that year.

Annual amounts of parish waste and bulk waste collected from homes on the Island have remained consistent over the last five years, whilst refuse deposited at the civic amenity site at Mont Cuét has increased by a massive 267% over the same period. Litter collected on the Island has also risen considerably by 81% over the last five years.

### Indicator Analysis

The quantity of household waste is rising which is placing continued pressure on the Island's landfill facilities at Mont Cuét. These facilities have a limited life expectancy and waste reduction will need to play a central role in the Island's future waste disposal strategy.

Whilst rises in household recycling rates is encouraging, any sustainable waste strategy must also be accompanied by efforts to actually minimise the amounts of waste produced.



# Household and Commercial Waste

## Indicator 2: Commercial Waste

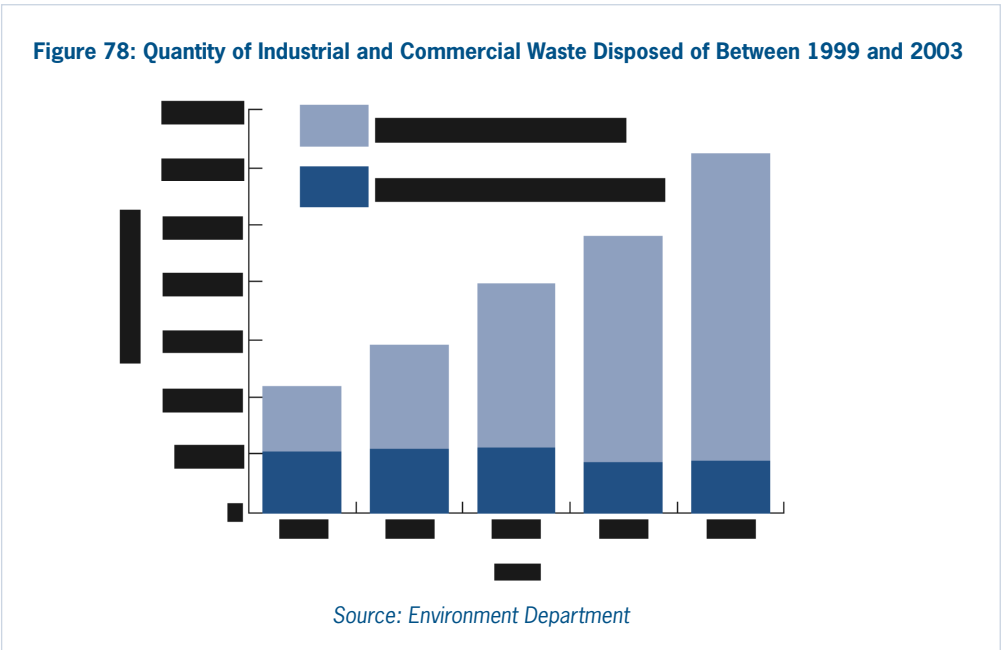
### Indicator Measure

#### Amount and type of commercial waste disposed of annually

This indicator highlights not only the amount of waste disposed of by the commercial sector, but also the type of waste produced categorised as biodegradable waste, or inert waste such as stone, hardcore, brick, concrete, glass and soil. Biodegradable waste is landfilled at Mont Cuét, whilst inert waste is deposited at the land reclamation site at Longue Hougue.

### Indicator Data

**Figure 78** below indicates the amount of industrial and commercial waste disposed of at Mont Cuét and Longue Hougue from 1999 to 2003. Please note that as a result of changing the way in which the household waste figures have been calculated, the figures for commercial waste disposed of at Mont Cuét from 1999 to 2003 have changed slightly from last year's data.



Since weighbridge records began in 1999, the amount of inert waste produced has increased markedly year on year. In 2003, 268,848 tonnes was deposited at Longue Hougue, 36% more than in 2002 and some 372% more than in 1999.

By contrast, the amount of biodegradable commercial waste disposed of at Mont Cuét Landfill Site decreased by 5% on 2002 levels to 43,132 tonnes. This follows the significant decrease experienced the year before of 25% on 2001 figures. Up until 2001 biodegradable waste derived from commercial activities had been steadily rising, reaching a peak in 2001 of 59,249 tonnes.

### Indicator Analysis

The ongoing increase in the amount of inert waste produced is due both to the ongoing boom in the local building industry and also to the removal of large quantities of silt and rock from St Sampson's Harbour as part of its redevelopment as a marina. This has obviously accelerated the rate of reclamation at Longue Hougue which is necessary in order to create the land on which to build the Energy from Waste Facility which was approved by the States in September 2003.

In 2002, the dramatic reduction in the amount of commercial waste disposed of at Mont Cuet was attributed to the introduction of policies by the Environment Department to encourage the segregation of waste at source. This further reduction in commercial waste in 2003 is an encouraging indication that the policies are sustaining the positive trend.



# Household and Commercial Waste

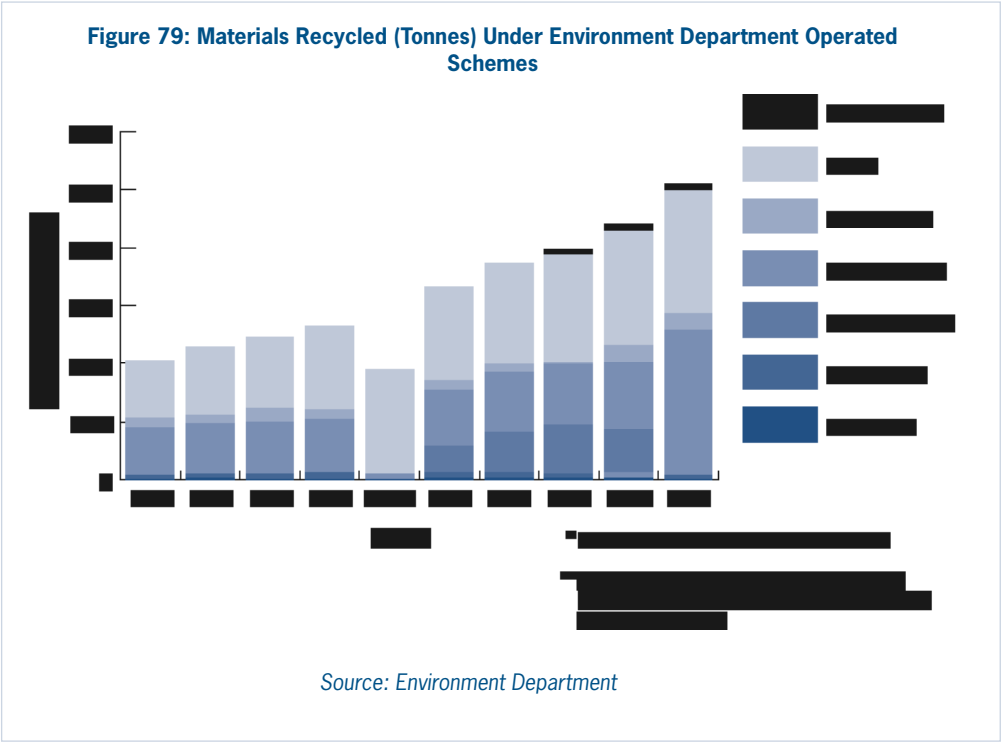
## Indicator 3: Materials Recycled

### Indicator Measure

#### Amount of material recycled on the Island

This indicator monitors the amount of waste recycled in Guernsey under Environment Department operated schemes during the last decade. Recycling has been encouraged in Guernsey since the early 1990s primarily to reduce the amount of waste requiring disposal due to the shortage of available landfill space on the Island. Whilst recycling is more costly than landfill, it reduces the use of raw materials and energy needed to manufacture new products, maintaining the cycle of production.

### Indicator Data



**Figure 79** shows the quantities of various waste materials recycled under schemes operated by the Environment Department from 1994 – 2003.

The level of recycling undertaken in Guernsey continues to increase steadily year on year. In 2003, over 5,030 tonnes of waste was recycled under Environment Department operated schemes, up on 2002 levels by 17%. The majority of this increase was due to a 74% increase in the quantity of scrap metal diverted from landfill, mainly due to the operation of the waste segregation facility at Fontaine Vinery, which opened in September

# Household and Commercial Waste

## Indicator 3: Materials Recycled

### Indicator Data

2002. In addition, 2,227 vehicles and 150 large metal items such as oil tanks, boilers, lawn mowers, etc., were recycled under the Environment Department's "Bulk Refuse Removal Scheme".

In addition to the recycling schemes operated by the Environment Department, a number of private companies and charitable organisations undertake the recycling of various household and commercial waste types including textiles, tyres, lead-acid batteries, toner cartridges, mobile telephones, timber, paper and cardboard from commercial sources, etc. This indicator will aim to include these schemes in future years.

### Indicator Analysis

In the ten years recorded, the amount of material recycled on the Island per annum has risen by 144%. Paper is the Island's most recycled material, accounting for 43% of the total material recycled on the Island in 2003. Efforts by the Environment Department to divert metal from landfill have also had a very positive impact contributing 25% of the 2003 total figure of materials recycled.



# Household and Commercial Waste

## References and Further Reading

### Organisations

#### **Environment Department**

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Website: [www.eea.eu.int](http://www.eea.eu.int)

### Websites

#### **letsrecycle**

[www.letsrecycle.com](http://www.letsrecycle.com)

#### **Waste Watch: Recycling Initiatives**

[www.wastewatch.org.uk](http://www.wastewatch.org.uk)

#### **The Waste and Resources Action Programme**

[www.wrap.org.uk](http://www.wrap.org.uk)



### Snapshot

- Traffic volumes monitored at three locations on the Island show that levels have generally stabilised.
- Passenger journeys by bus have increased by 37% from 2000 to 2003 thus a higher proportion of Islanders and visitors are using public transport.
- The most popular mode of transport to work and school continues to be the private car compared to other forms of transport.
- From 1991 to 2001, car use for work and school as measured by the Guernsey Census has increased and other modes have decreased.

### Trends

The volume of traffic recorded in 2003 has decreased slightly compared to 2001. This may be because more people choose to use public transport combined with the effect of a more co-ordinated roadworks programme.

The number of bus passenger journeys has risen from 1,057,627 in 2002 to 1,201,799 last year which is a 14% increase and the highest recorded level since 1996 when statistics first became available.

The main form of transport to work is the private car and the percentage of the population travelling this way has increased from 63.4% in 1991 to 68.0% in 2001.

### Connections

The ability to travel around the Island is an essential part of community life and impacts on many facets of sustainability. For example, local transport connects to air quality, energy consumption and economic performance:

**Air quality** – one of the several pollutants emitted by motor vehicles is Nitrogen Dioxide which affects air quality trends. The levels of Nitrogen Dioxide have been consistently higher at the roadside compared to background (non-roadside) levels. This suggests a link between motor vehicle emissions and air quality. There is also a link between the volume of traffic and noise pollution. In the UK:

*“Air quality is getting better. Actions at international, national and local level have all contributed to this improvement. For example, emissions of air pollutants from road transport have fallen by 50% over the last decade”* Achieving a Better Quality of Life, UK Government Annual Report, 2002)

 [see page 133](#)

# Local Transport

## Connections, Policy Objectives and What is Measured

### Connections

see page 97



**Energy consumption** – the amount of fuel used for transport is measured under the Energy Consumption indicator. The Travel and Tourism chapter in Guernsey Facts and Figures 2004 shows an increase in the amount of vehicles taxed for use. Results from the UK “ADMS-Urban dispersion model” suggests that the forecast for 2005 is positive: “...a substantial reduction in vehicles emissions brought about by the auto oil vehicle emission and fuel quality standards which will have cleaned up emissions from the vehicle stock substantially by that time.” (Defra Air Quality Strategy, Section 6, 2000.)

see page 81



**Economic performance** – local transport allows for goods and services to be transported around the Island, the accessibility of commuters and school children to travel to and from work and school. The effects of traffic congestion could have an impact on the function of the economy: “A good transport system is essential both for a strong economy and a better quality of life... It is clear that we need a step change in transport planning and funding in order to deliver a system for the 21st Century which meets the needs of all of us - pedestrians and cyclists, motorists and public transport users, business and consumers alike.” (Sustainable Development, UK Government Approach, 2004)

### Policy Objectives

**The principal policy objective for local transport strategies is to reduce the level of car usage on the Island, by providing incentives for people to consider using their cars less and alternative forms of transport more. The integrated policy measures will include issues relating to improving bus services, improving parking services, improving provisions for vulnerable road users, revision of vehicle registration and licensing schemes, as well as improving road safety, road use and the environment.**

#### **Policy Plan Reference:**

2003 Policy and Resource Plan, Part 1, Section 3.2 – Integrated Road Transport Strategy.

### What is Measured

Traffic volumes at peak times are measured at three major routes in and out of St Peter Port. The total amount of passenger journeys per annum on the Island's scheduled bus service is then collected. Finally the mode of travel to work and school taken from the Guernsey Census is measured.

Indicator 1:Overall Island Traffic Volumes and Congestion Levels

Indicator Measure

Vehicle numbers recorded at peak travel times in and around St Peter Port

The amount of traffic on the Island's roads has a direct impact upon the quality of life of Island residents in terms of noise pollution, congestion and road safety. Traffic congestion at peak times can also exacerbate noise, pollution, and nuisance caused by traffic as well as contributing to time lost getting to and from work. The number of cars on the roads also has implications for parking, particularly in the town area.

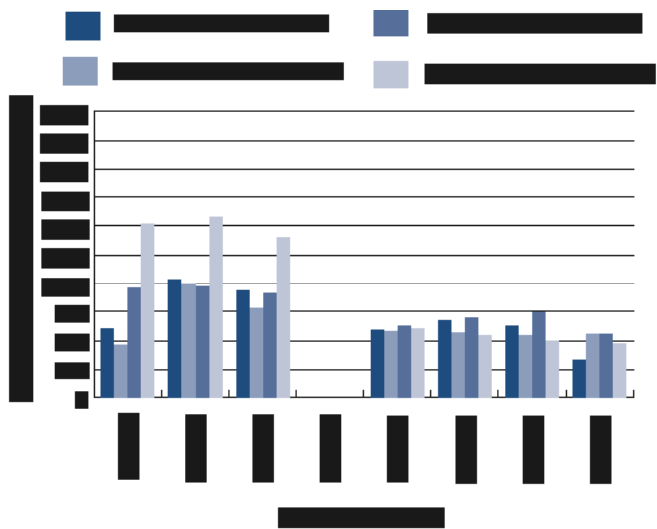
This indicator monitors the volume of traffic recorded at various locations around St Peter Port. The indicator provides a means of measuring the volume of traffic travelling into and out of St Peter Port.

Indicator Data

Traffic flows

Data shown in **Figures 80 to 82** are based on the number of vehicles passing three monitoring locations travelling into and out of St Peter Port at peak travel times. The actual number of vehicles recorded on a monthly basis has been calculated to provide an average hourly figure for 8am to 9am and 5pm to 6pm. No data exists for the Grange, quarter 4, 2001, or Les Val des Terres, quarter 3, 2001. Data for 2002 are unavailable from the Environment Department due to problems with the data collection process.

Figure 80: Traffic Flows Along The Grange — 2001 and 2003

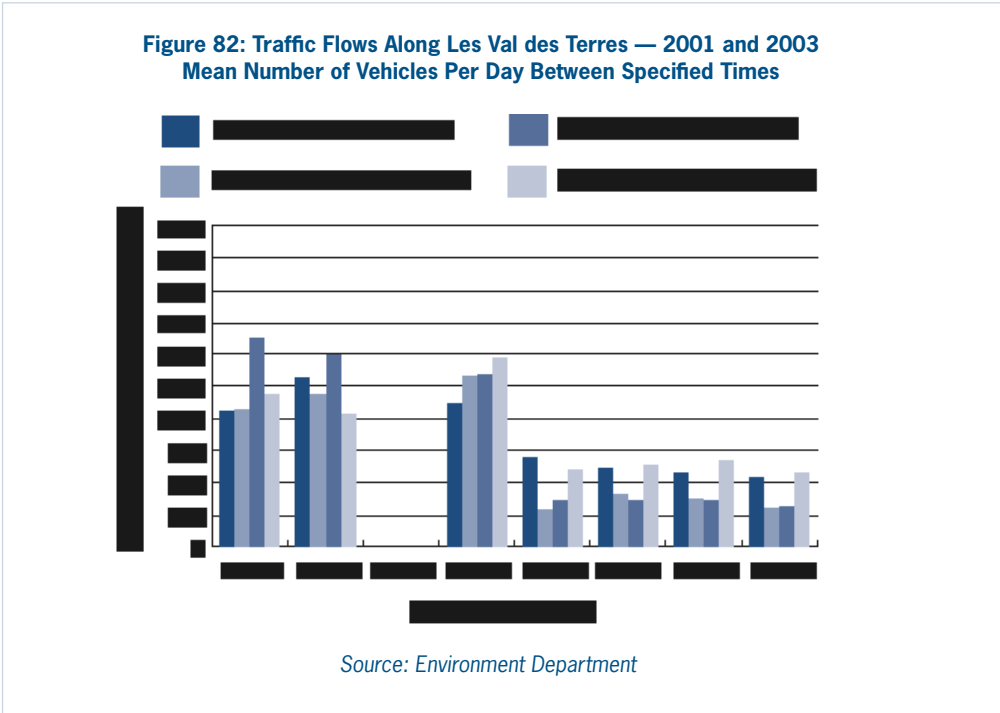
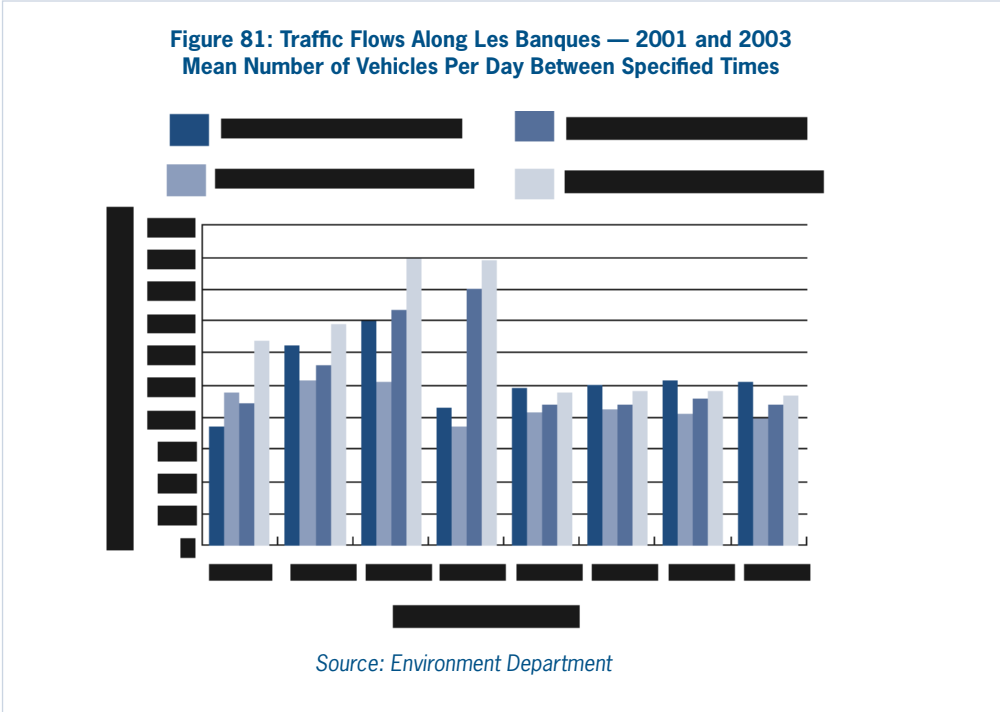


Source: Environment Department

# Local Transport

## Indicator 1: Overall Island Traffic Volumes and Congestion Levels

### Indicator Data



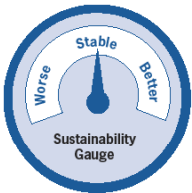
Indicator 1:Overall Island Traffic Volumes and Congestion Levels

Indicator Data

Compared to 2001, traffic levels appear to have dropped slightly and become less erratic at the three locations monitored. Traffic flows into St Peter Port via the Grange between 8am and 9am were at their lowest at the end of 2003 but this was due to the closure of one lane in St Julian's Avenue, in October 2003. Traffic along Les Banques in 2003 remained steady throughout the year. Traffic volumes along Les Val des Terres were the highest travelling into St Peter Port during early morning and out of St Peter Port between 5 pm and 6 pm. This reflects commuters and pupils at school travelling to and from the higher parishes.

Indicator Analysis

Volumes of traffic are at their highest during the peak commuter hours – coming into St Peter Port in the morning and then leaving St Peter Port in the early evening. At all three monitoring locations it appears that the volume of traffic has generally stabilised throughout 2003.



# Local Transport

## Indicator 2: Access to Public Transport

### Indicator Measure

#### Number of passenger journeys on the Island's scheduled bus service

In terms of helping to ease road congestion, particularly at peak commuting times, public transport services provide an alternative to travelling by car, van or motorcycle.

The number of passenger journeys recorded on the Island's scheduled bus services provide a good indicator as to the overall use of these services.

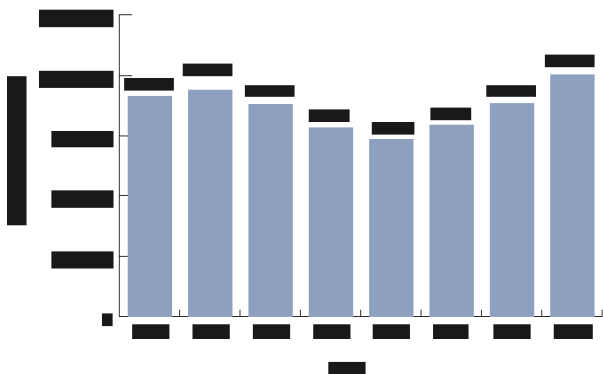
### Indicator Data

#### Bus passenger journeys

As shown in **Figure 83**, the overall trend in the number of passengers using public transport declined from 1997 to 2000. Since 2000 the numbers have steadily increased by 37% with 1,201,799 bus passenger journeys in 2003. This is an increase of 14% compared to 2002 and the highest recorded since 1996, when statistics were first accurately recorded.

According to the Environment Department the rise can be attributed to a package of improvements to the local bus network, including a new route network and timetable that were introduced in 2001, as well as a maximum fare of 50p and free travel for OAPs. The new bus fleet that was introduced in early 2003, may have contributed to an increase in passenger numbers.

Figure 83: Scheduled Bus Services - Number of Passenger Journeys



Source: Environment Department

### Indicator Analysis



The number of people using the Island's scheduled bus service has increased year on year since 2000 probably resulting from an improved service and cheaper fares.

## Indicator 3: Modes of Transport

## Indicator Measure

**Modes of transport used when travelling to work or school**

This indicator monitors trends in the type of transport used by the population to travel to work or school. It uses data collected in the 1991 and 2001 censuses of population. The ten year period covered provides a useful indicator of how trends have changed over this time period.

## Indicator Data

**Mode of transport to work or school**

**Table 34** shows the various methods by which people in the Island travel to work or school. By far the most popular form of transport is driving a car or van – this accounted for 63% of journeys in 1991 and 68% in 2001. There has been a decline in the number of people cycling to work and school. This is particularly the case for those travelling to and from school. The percentage using bicycles has fallen from 12% in 1991 to 4% in 2001. At the same time the number of school children who were taken to school as a car passenger has increased from 47% in 1991 to 56% in 2001.

**Table 34: Mode of Travel to Work — Percentage**

	Travel to Work		Travel to School	
	1991	2001	1991	2001
Public Service Bus	1.3	1.3	2.1	1.5
School Bus	-	-	9.1	8.4
Private Hire Bus, Minibus or Taxi	0.9	0.4	0.7	0.4
Motorcycle, Scooter or Moped	3.3	3.0	3.4	5.3
Driving a Car or Van	63.4	68.1	2.9	5.7
Passenger in a Car or Van	8.2	7.3	47.1	56.0
Bicycle	3.3	2.7	11.9	4.4
On Foot	13.1	12.1	17.5	15.2
Other*	6.5	5.2	5.3	3.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

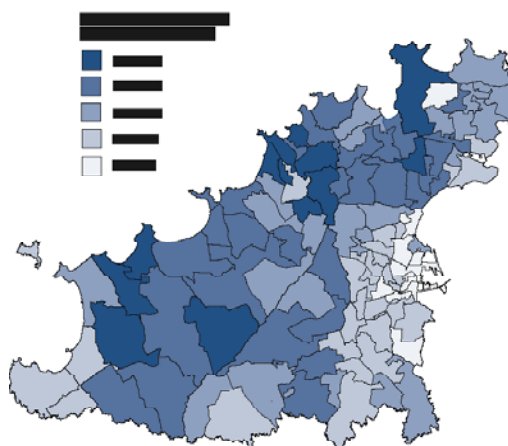
Source: Guernsey Census, Policy Council, Policy & Research Unit

# Local Transport

## Indicator 3: Modes of Transport

### Indicator Data

**Figure 84: Number of People Who Drive to Work by Car - by Census Enumeration District**



*Source: Guernsey Census, Policy Council, Policy & Research Unit*

**Figures 84 to 86** are based on the results of the 2001 Census and show the spatial distribution of the different modes of travel to work. The maps divide the Island into 106 enumeration districts, each district equating to roughly 200 households.

Not surprisingly, for people driving to work by car (**Figure 84**), those enumeration districts further away from St Peter Port tend to have a higher concentration than those located closer to the Town.

The pattern for people commuting to work by bus (**Figure 85**) is much less defined (i.e. spatially distributed) than for those travelling to work by car. Numbers travelling by bus are much lower than those driving (between 5 and 25 travelling by bus, compared to between 52 and 402 driving by car).

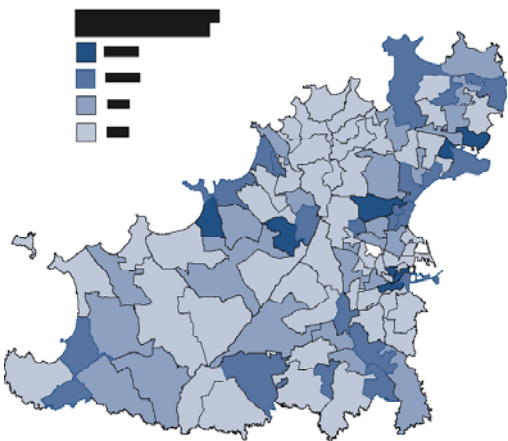
For those cycling to work (**Figure 86**), there is a distinctive north-south divide. Clearly the southern and western parishes are less popular for cyclists. Distance from work (assuming that most people work in the urban areas of the Island) and terrain (cycling up hill) could be two factors in this case.



Indicator 3: Modes of Transport

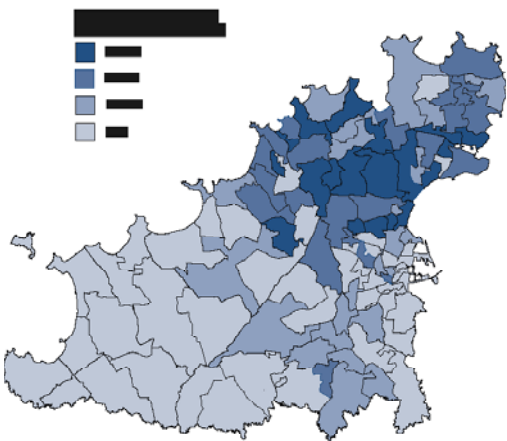
Indicator Data

Figure 85: Number of People Who Travel to Work by Bus - by Census Enumeration District



Source: Guernsey Census, Policy Council, Policy & Research Unit

Figure 86: Number of People Who Travel to Work by Bicycle - by Census Enumeration District



Source: Guernsey Census, Policy Council, Policy & Research Unit

Although there are plenty of methods by which people travel to work or school, the majority travel by private car or van. Over the last ten years, the trend has been that the percentage of those travelling by private car or van has increased and the percentage using other methods has decreased.

Indicator Analysis



# Local Transport

## References and Further Reading

### Further Reading

#### **The 2001 Census Report**

Published by the Policy and Research Unit, Advisory and Finance Committee, 2002. This report may be downloaded from [www.gov.gg](http://www.gov.gg)

### Organisations

#### **Policy Council,**

Policy and Research Unit  
Sir Charles Frossard House  
PO Box 43  
St Peter Port  
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GY1 1FH  
Tel 717000  
Fax 717157  
[www.gov.gg](http://www.gov.gg)

#### **Environment Department**

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PO Box 43  
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GY1 1FH  
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#### **The Centre for Alternative and Sustainable Transport**

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Fax : 01782 747167  
Website: [www.staffs.ac.uk/schools/sciences/geography/cast/](http://www.staffs.ac.uk/schools/sciences/geography/cast/)

#### **Defra - Department for the Environment, Food and Rural Affairs**

Ergon House  
17 Smith Square  
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# Monitoring Corporate Programmes

## Introduction

In last year's Sustainable Guernsey monitoring report, a section was included outlining the process for monitoring States corporate programmes. The following provides an update on the monitoring frameworks for the Corporate Housing Programme (CHP) and Corporate Anti-Poverty Programme (CAPP).

## CHP

### Corporate housing programme

The 2003 Policy and Resource Plan outlined the structure for the Corporate Housing Programme (CHP) together with a description of the six action areas. Action Area F led by the Advisory and Finance Committee is:

"To establish an authoritative system for collating information about housing in order to monitor and review the effectiveness of the Corporate Housing Programme against strategic objectives."

Mentioned in both the 2003 Policy and Resource Plan and 2003 Sustainable Guernsey report was the outline of what the monitoring framework would comprise. The action plan for 2003/2004 consisted of the following:

- "To identify the key variables – a corporate 'shopping list' of factors – that need to be measured by States Committees."
- "To secure commitment to the process of cross-committee data sharing and agree a project plan to tackle the barriers to implementation. The 2004 Action Plan will then be based on the tasks identified in the Project Plan."
- "To implement the establishment of an 'affordable' Housing Roll to supplement waiting lists for States/Housing Association accommodation and States Home Loans (Housing Authority)."

# Monitoring Corporate Programmes

## Corporate Housing Programme (CHP)

### CHP

#### Approach

It is intended that quantitative data collected and analysed will be reported as part of the annual monitoring process. Since the Sustainable Guernsey monitoring report is a strategic document and is intended as a “signposting” report to supporting information detailed data will be reported in a separate document. The data will be represented under three themes of:

- 1. Availability of housing
- 2. Quality of housing
- 3. Affordability of housing

#### 1. Availability of housing

Indicators:	
a. Total number of dwellings by:	
New build completions:	Dwellings released to the market
Tenure:	Owner occupied, private rented, social rented
Type:	Detached, Terrace, Bungalow, Semi-detached, Flat, Bedsit
Location, Post code and parish:	Post code and parish, Urban and Rural areas
Status:	Local Market or Open Market
Number of Bedrooms:	

### 2. Quality and environmental impact of housing

Indicators:	
a. Total number of dwellings which are built on Brownfield and Greenfield sites	
b. Total number of dwellings which are fulfilling quality standards (yet to be defined) by:	
<b>New build completions:</b>	Dwellings released to the market
<b>Tenure:</b>	Owner occupied, private rented, social rented
<b>Type:</b>	Detached, Terrace, Bungalow, Semi-detached, Flat, Bedsit
<b>Location:</b>	Post code and parish, Urban and Rural areas
<b>Status:</b>	Local Market or Open Market
<b>Capacity:</b>	No. of bedrooms

### 3. Affordability of housing

Indicators:	
a. General Affordability Index	
b. House Price Index by:	
<b>Status:</b>	Local Market and Open Market
<b>Lower Quartile:</b>	Local Market
c. Total number of dwellings available under affordable housing schemes by:	
<b>Partial Ownership:</b>	
<b>Assisted Purchase:</b>	
<b>Self Build:</b>	
<b>States Let:</b>	
<b>Housing Association let:</b>	

# Monitoring Corporate Programmes

## Corporate Anti-Poverty Programme (CAPP)

### CAPP

#### The Corporate Anti-Poverty Programme (CAPP)

In November 2003, the States of Guernsey approved the establishment of a Corporate Anti-Poverty Programme (CAPP), through which the Island's Anti-Poverty Strategy will be delivered. A commitment was made in the policy letter on the Anti-Poverty Strategy to provide further details of the monitoring of the CAPP: -

*"...The logistics of monitoring the performance, effectiveness and sustainability of the CAPP will be discussed in the 2004 Sustainable Guernsey Monitoring Report.... effective monitoring of the CAPP will involve both examining how the work streams are progressing, as well as focusing on their outcomes."*

The following paragraphs are intended to provide an outline of the monitoring process. This is the first stage in establishing a system, which enables the measurement of core programme outcomes as and when the data becomes available.

#### Stage 1- Objectives

The overall aim of the Anti-Poverty Strategy is to reduce relative poverty in Guernsey by at least 50% with respect to the benchmark set by the Survey of Guernsey Living Standards (SGLS)<sup>1</sup> in 2000 / 2001 by the end of 2008. There are also a number of secondary objectives (see Appendix 1). The six action areas of the Corporate Anti-Poverty Programme (see Appendix 2) (in conjunction with the previously States approved corporate housing programme (CHP)) are aimed at achieving these objectives.

#### Stage 2- Implementation

The Anti-Poverty Strategy policy letter contained a section on 'Effective Monitoring' of the strategy and the associated Corporate Anti-Poverty Programme (CAPP).

The policy letter stated that *"the progress of each action area and future action plans will be presented in the annual Policy and Resource Plan, which is likely to take place in December for 2004."*

This process will provide an opportunity to review annually progress against programme objectives and the strategy, assess timescales and milestones, and evaluate the programme's priorities

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<sup>1</sup>The Survey of Guernsey Living Standards was carried out by the Townsend Centre for International Poverty Research, based at the University of Bristol – see Billet d'État XXV 2003, pp2346-2386 for further details.

### Stage 3 - Delivery and Outcomes

The policy letter added that monitoring the outcomes of the strategy, i.e. examining whether the objectives of the strategy are being met, would take place at two different levels.

First, the take-up and outcomes of individual initiatives would be monitored and, second, the success of the CAPP as a whole would be determined and evaluated against a repeat of the Survey of Guernsey Living Standards early in 2009.

Indeed the States of Guernsey resolved *“To direct the States Advisory and Finance Committee to commission a repeat of the Survey of Guernsey Living Standards early in 2009 and to report back to the States on the findings.”*

Under the ‘transfer of functions’ legislation instigated by the Review of the Machinery of Government come into effect, this responsibility has fallen to the Policy Council.

The remainder of this section provides further details of a framework under which these outcomes could be monitored, divided into three subsections: -

- a) Monitoring the overall effectiveness of the CAPP;
- b) Monitoring the take-up and outcomes of individual initiatives;
- c) Monitoring the views of those on low incomes.

### Monitoring the overall effectiveness of the CAPP

Early in 2009 a repeat of the SGLS will be conducted in order to help to identify the overall progress made by Guernsey’s Anti-Poverty Strategy and how effective the corporate Anti-Poverty Programme is at delivering that strategy. The Anti-Poverty Strategy policy letter said that the repeat of the SGLS would be done with respect to the benchmark set in 2000 / 2001 and that the overall aim of the strategy was to reduce poverty in Guernsey by 50% with respect to this benchmark. This is important to monitor the absolute success of the strategy.

To monitor relative poverty , the number of people living in households with incomes

# Monitoring Corporate Programmes

## Corporate Anti-Poverty Programme (CAPP)

### CAPP

below 60% of contemporary median equivalised household income could be used, or the SGLS could be repeated with respect to a new benchmark, based on the items and services considered essential by the population of Guernsey in 2009. Discussions are currently on going with regard to both of these options (see section on further research below).

#### **Monitoring the take-up and outcomes of individual initiatives**

Although monitoring the overall effectiveness of the Anti-Poverty Strategy is important, the results will not necessarily show which individual initiatives in the strategy are working well, which initiatives need altering or are not cost effective, and where extra help or resources need to be targeted. There are potentially a large number of indicators that could be used, for example the annual increase in the single pension relative to the couple's pension and relative to the Retail Prices Index, or the take-up and/or success rate for new initiatives. The next task is to identify which indicators are both easy to calculate and will provide useful information.

#### **Monitoring the views of those on low incomes**

Last, but certainly not least, it is important to monitor the attitudes of those on low incomes, i.e. whether they feel the initiatives contained in the strategy are helpful or of benefit to them. If the proposers of the strategy do not work with those on low incomes, the strategy and Corporate Anti-Poverty Programme will not succeed.

#### **Further research**

Over the next year the above framework for monitoring the Anti-Poverty Strategy and Corporate Anti-Poverty Programme will be refined. Further work will focus on: -

**Further research into repeating the SGLS.** Repeating the Survey of Guernsey Living Standards with respect to the benchmark set in 2000/2001 is essential for evaluating the overall success of the anti-poverty strategy. Further investigation into whether to repeat the SGLS with respect to both the 2000/2001 benchmark and a 2009 benchmark (to continue to monitor relative poverty), and the statistical significance of the results, is underway. Discussions will shortly be taking place with Professor Gordon at the Townsend Centre for International Poverty Research. These discussions will also focus on reviewing the methodology used in the 2000/2001 survey and whether this can be improved any further, for example cost:benefit analysis of using a larger sample size;



Investigating whether monitoring the number of people living in households with incomes below 60% of contemporary median equivalised household income can be efficiently and effectively put into practice, and associated research. The UK has much larger research resources than the States of Guernsey's Policy and Research Unit. If this data cannot be obtained on an annual basis, the Household Expenditure Survey, which is carried out every five years, may be the most cost effective local survey for providing this information.

Determining whether it is optimal to consider using both a repeat of the SGLS against a 2009 benchmark and the number of people living in households with incomes below 60% of contemporary median equivalised household income to measure the number of households suffering from relative poverty, or whether it would be sufficient and more cost effective to carry out just one or the other.

Establishing a monitoring framework for individual initiatives within the Anti-Poverty Strategy by establishing and refining a shopping list of potential indicators, and establishing if, and how, this data may be collected.

Monitoring the views of those on low incomes.

Reporting on the progress made under each CAPP Action Area during 2004, and presenting the CAPP Action Plans for 2005, in the 2004 Policy and Resource Plan.

# Monitoring Corporate Programmes

## Corporate Anti-Poverty Programme (CAPP)

### Appendix 1

#### **The objectives of the Anti-Poverty Strategy are:**

- To enable Guernsey and Alderney residents to afford essential items and services (more specifically those items and services considered essential by 50% or more of the population in 2000 in the Townsend Centre's Report "The Necessities of Life").
- To provide support, including necessary financial assistance, to those most in need in conditions of dependency, such as childhood, old age, disability and special need, but with due regard to the sustainability of the Island's resources.
- To target this assistance at those groups identified by the Townsend Centre as suffering most from relative poverty.
- To ensure that the tax and benefit systems work in an integrated way to support those suffering from, or vulnerable to, relative poverty.
- To fulfil the objective that no resident of Guernsey or Alderney should be denied access to health and social services through lack of financial resources.
- To encourage and assist those in financial poverty, wherever possible, to improve their situation by: -
  - Entering, or re-entering, the workforce;
  - Improving their employment prospects through education and training;
  - Gaining control of their financial circumstances.
- To promote the benefits, advice, education, training, and employment opportunities available to those people suffering from relative poverty, so that those concerned know where help can be obtained.
- To ensure that relevant fiscal policies have due regard to the Corporate Anti-Poverty Programme.

#### **And through the Corporate Housing Programme: -**

- To ensure that all persons legally resident in Guernsey have access to housing accommodation to meet their reasonable needs (the first objective of the States Housing Strategy).
- To maintain and improve the quality of housing in Guernsey across all sectors bearing in mind the impact of housing conditions on the health and well-being of the community (the seventh objective of the States Housing Strategy).

#### Corporate Anti-Poverty Programme action areas

Action Area	Title	Lead Department after 1 May
<b>Action Area A:</b>	Benefit and Tax Measures	1) Social Security 2) Treasury and Resources
<b>Action Area B:</b>	Education and Employment Services	1) Education 2) Commerce and Employment
<b>Action Area C:</b>	Services for Older People and People with Disabilities	1) Health and Social Services 2) Social Security
<b>Action Area D:</b>	Services for Families with Children and Young People	Health and Social Services
<b>Action Area E:</b>	Crime Reduction Initiatives	Home
<b>Action Area F:</b>	Fiscal and Legislative Measures	Policy Council
<b>Action Area G:</b>	Housing Under the Corporate Housing Programme	

# References

## Understanding Sustainable Development

### **Agenda 21**

United Nations Division for Sustainable Development, [www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm](http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm)

### **Atkisson, A** (1999)

Believing Cassandra: An Optimist Looks at a Pessimist's World, Scribe Publications, Melbourne.

### **World Commission on Environment and Development (WCED)** (1987)

Our Common Future, Oxford University Press.

## Understanding the Role of Indicators

### **Bell, S., and S. Morse**, (1999)

Sustainability Indicators: Measuring the Immeasurable, Earthscan, London.

### **Bell S., and S. Morse**, (2002)

Measuring Sustainability: Learning from Doing, Earthscan, London.

### **PASTILLE Consortium**, (2002)

Indicators Into Action: Local Sustainability Indicator Sets in their Context, London School of Economics, London

## Indicator Examples

### **Accelerate Sustainability:**

[www.atkisson.com](http://www.atkisson.com)

### **DEFRA Quality of Life Indicators:**

[www.sustainable-development.gov.uk/indicators/national/index.htm](http://www.sustainable-development.gov.uk/indicators/national/index.htm)

### **Sustainability Indicators - Malta Observatory:**

Islands and Small States Institute

<http://www.um.edu.mt/intoff/si-mo/firstpg.html>

### **United Nations Sustainability Indicators:**

[www.un.org/esa/sustdev/natinfo/indicators/](http://www.un.org/esa/sustdev/natinfo/indicators/)

### **University of Reading – Indicators of Sustainable Development:**

[www.sustainable-development.gov.uk/indicators/national/index.htm](http://www.sustainable-development.gov.uk/indicators/national/index.htm)

### Ecological Footprints

**Chambers, N, Simmons, C, and Wackernagel, M (2002)**

Sharing Nature's Interest – Ecological Footprints as an Indicator of Sustainability, Island State – Footprinting Guernsey, P. 140 – 144, Earthscan.

**Barrett, J** (2000), Sustainability Indicators and Ecological Footprints the Case of Guernsey, John Moores University Liverpool.

# Glossary

**Agenda 21** - Program of action, for the 21st century, adopted by the 1992 United Nations Conference on Environment and Development 'Earth Summit', in Rio de Janeiro.

**Biodiversity** – The variety of organisms found within a specified geographic region.

**Brownfield Site** – Land that is or was occupied by a permanent building, structure or associated infrastructure, e.g. roads. Includes garden plots but does not include agricultural/ horticultural land.

**Carrying Capacity** – The maximum potential number of inhabitants which can be supported in a given area. The optimum number of users of facilities where the upper limit is set at the point where the environment deteriorates.

**Climate Change** - Human activities are altering the chemical composition of the atmosphere through the build-up of greenhouse gases that trap heat and reflect it back to the earth's surface. This is resulting in changes to our climate, including a rise in global temperatures and more frequent extreme weather events.

**Earth Summit** - The United Nations Conference on Environment and Development or UNCED (the "Earth Summit") held in Rio de Janeiro, Brazil in 1992. The Earth Summit was the largest gathering of heads of state in world history. The second United Nations "Earth Summit" was held in Johannesburg, South Africa in September 2002.

**Eutrophication** – Is a process that occurs when excess nutrients such as nitrogen and phosphorus compounds, that come mainly from municipal sewage and farm run-off containing fertilizers and animal waste are introduced to lakes, rivers, and marine environments, they can cause excess growth of aquatic plants, which then die and decay, depleting water of dissolved oxygen and often resulting in fish deaths.

**Gross Domestic Product (GDP)** - The total final output of goods and services produced within a country in a year by residents and non residents regardless of allocation of domestic and foreign claims.

**Greenhouse Gases** - Greenhouse gases are gases that absorb and trap heat in the atmosphere and cause a warming effect on earth. Some occur naturally in the atmosphere, while others result from human activities. Greenhouse gases include carbon dioxide, water vapour, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrofluorocarbons and perfluorocarbons.

**GHQ12** – General Health Questionnaire 12, a short form version of the General Health Questionnaire (GHQ) which is itself an instrument designed to detect cases as opposed to non-cases of psychiatric disorder in both clinical and non-clinical populations (Goldberg, 1972).

**Gross National Product (GNP)** - The total value of goods and services produced by an economy over a particular period of time. GNP is made up of consumer and government purchases, private, domestic and foreign investments in the country and the total value of exports.

**Intergovernmental Panel on Climate Change (IPCC)** - The IPCC was established in 1988 by the World Meteorological Organization and the UN Environment Programme. It conducts rigorous surveys of the worldwide technical and scientific literature and publishes assessment reports that are widely recognized as the most credible existing sources on climate change.

**Leachate** – The solution formed when water percolates through a permeable medium. When derived from solid waste, in some cases the leachate may be toxic or carry bacteria.

**Macro-economic** – The study of the economy as a whole.

**Non-Governmental Organizations (NGOs)** - NGOs must be non-profit and can include environmental groups, research institutions, business groups, and associations of urban and local governments.

**Per Capita** - Latin for “by heads.” A measurement that is presented in terms of units per person, as opposed to a total or aggregate figure.

**Precautionary Principle** - A principle in the Rio Declaration from the 1992 UN Conference on Environment and Development that states: “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.

**Ratification** - After signing a Convention or Protocol, a country must ratify it, often with the approval of its parliament or other legislature. The instrument of ratification must be deposited with the depositary (the UN Secretary-General) to start the 90-day countdown to becoming a Party.

**Renewable Energy** - Energy sources that are, within a short timeframe relative to the Earth’s natural cycles, sustainable, and include non-carbon technologies such as solar energy, hydropower and wind as well as carbon-neutral technologies such as biomass.

**RPI** – Retail Prices Index, main domestic measure of inflation. Measures the average change from month to month in the prices of goods and services purchased by most households in the island.

**Society** - From a Latin root meaning “companion.” Society in the broadest sense refers to the entirety of a community, the whole web of living relationship among people, their Culture, and their Environment.

**Strategy** - Long-range policy designed for a particular purpose.

**Water Catchment** - A geographical area whose boundaries are determined by the flows of water following gravity to a principal tributary, river or body of water. Watersheds may be of many different scales, from relatively small to the very large.

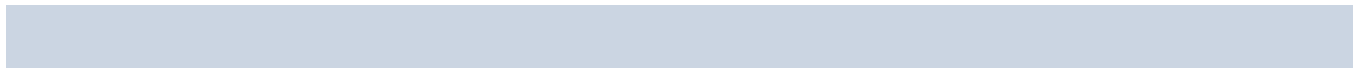
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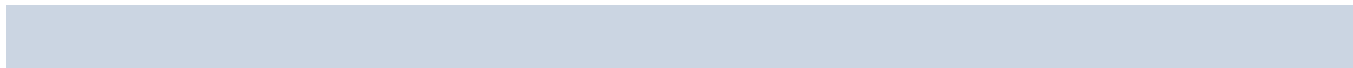


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