

IAIA Conference
Vancouver
April 2004

Original but now replaced – How Green is the Scottish Economy? Is there a link between a lack of environmental management systems and a presence within the renewables sector?

W Lynch, S McAdam



The Geddes Institute
University of Dundee



The Herald

Thursday February 19, 2004

Scots losing out on renewable energy bonanza

Contracts worth millions are going abroad

❖ Answer – light green and apparently YES

❖ THE END

❖ But seriously – topic was altered and confirmed by program committee to --

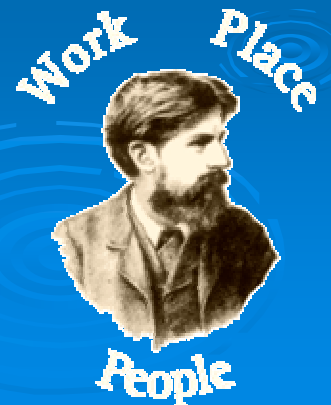
IAIA Conference
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An examination of movement along Scotland's path to sustainable development : integrating economy and environment?

W Lynch, S McAdam



The Geddes Institute
University of Dundee



Context

- ❖ 11 September 1997 – Scottish Parliament
- ❖ 2002 SD Policy introduced entitled – ‘Meeting the Needs : Priorities, Actions and Targets for Sustainable Development in Scotland’
- ❖ Prior to this Scottish policy subsumed under UK policy – SD the UK Strategy (1994) and beyond
- ❖ Integrating economy and environment – the corporate sector and the Scottish Enterprise Network (SEN) – how green?

Partnership Government

Greens call for better environment performance

GREENS YESTERDAY called on the Scottish Executive to act on a report criticising the Government's performance on a range of environmental issues.

Of 20 "challenges" highlighted in a report by the Sustainable Development Commission, half fell within the responsibility of the Executive, said Robin Harper, the Scottish Greens' parliamentary leader.

The report into the long-term quality of life in Britain follows a five-year review of the Government's performance.

It concluded more needed to be done to tackle problems like waste, rising traffic levels and obesity, and said quality of life was still not at the heart of government decision-making.

Mr Harper said the report endorsed the Green campaign for governments to consider using national prosperity measures other than gross domestic product (GDP)

- ❖ Coalition Government
- ❖ Labour + Liberal
- ❖ Single Transferable Vote means minority parties have representation

Sustainable Development – how defined?

- ❖ Brundtland (WCED, 1987)
- ❖ Interpretations :
 - ❖ Weak (ecological modernisation) to
 - ❖ Strong (deep ecological)
- ❖ 3 pillars / tetrahedron
- ❖ Semantic jousting
- ❖ Over 100 definitions can be found in the literature (Middleton et al (2001))

A process not a definition

- ❖ 'there is no single definition of SD. This is not a problem if we see the concept not as something which has to be defined precisely, but as a process.
- ❖ There is a fruitless search for a universal definition of SD; what is more important is that we begin to move towards a development path which is environmentally and socially responsible' (Welford, 2000 : 7)

Scotland appears unsustainable

- ❖ Process of measuring has begun and whilst data is lacking in some instances or less robust than needed nevertheless the pronouncement is that :
- ❖ 'Scotland is currently unsustainable; if trends continue then the situation will not improve' (Middleton et al, 2001 : 284)
- ❖ Scotland's Ecological Footprint (EF) stands at 5.35 gha per capita ie 1.8 Earths would be required if everyone on earth consumed a similar pattern to Scottish residents.

Key findings

Authors: N. Chambers, P. Griffiths, K. Lewis and N. Jenkin

Resource flow analysis

In 2001, Scotland's residents:

- Consumed 139,937 GWh of energy.
- Consumed 112 million tonnes of materials.
- Manufactured 30 million tonnes of products.
 - Consumed 6.9 tonnes of final products per capita.
- Consumed 3 million tonnes of food.
 - 637 kg per capita.
 - Generated 930,000 tonnes of food waste.
- Generated almost 15 million tonnes of waste.
 - 8 million tonnes by the commercial sector.
 - 2 million tonnes was household waste.
- Consumed 2.7 million megalitres of water.
 - 0.54 megalitres per capita.
- Generated 62 million tonnes of air emissions.
 - 61 million tonnes of CO₂.

Ecological footprint

In 2001, Scotland residents' ecological footprint was 27,082,915 gha or 5.35 gha per capita:

- Direct energy was 0.97 gha per capita (18% of the total ecological footprint)
 - Domestic energy use was the largest component, responsible for 68% of the direct energy ecological footprint.
- Materials & waste was the most significant component, with a per capita footprint of 2.01 gha (38% of the total ecological footprint).
- Food was the second largest component, with a per capita footprint of 1.55 gha (29% of the total ecological footprint).
 - Animal-based food products were responsible for 77% of the food ecological footprint.
- Personal transport was 0.6 gha per capita (11% of the total ecological footprint).
 - Scotland's residents travelled 67,000 million passenger-kilometres.
 - Car travel was the largest component of passenger transport - responsible for 78% of the personal transport ecological footprint.
- Built land was 0.21 gha per capita (4% of the total ecological footprint).

Sustainability assessment

If everyone on the planet consumed as much as an average Scotland resident, an additional 1.8 Earths would be required to sustainably support global resource consumption.

Data recommendations

On the basis of the problems faced with obtaining suitable data to carry out this study, the following recommendations are made to improve data availability and quality in the future:

- **Office of National Statistics (ONS) to:**
 - Provide ProdCom data at a regional level.
 - Examine their methodology, which could provide aggregated data that will allow suppressed data to be made available.
 - Ensure that industries report in terms of mass, or alternatively, ONS and other stakeholders carry out research and agree on a set of defined conversion factors to mass.
- **Data on import and export between UK regions and countries should be collected in more detail and made more transparent. For example:**
 - Air freight data was not available in enough detail to enable the extraction of UK import and export from world import and export.
 - Some road freight data was not included because it was not broken down into enough detail. For example, agricultural products included both primary crops and processed foods.
- **Currently, the examination of flows of resources throughout Scotland is limited. This is mainly due to very little data being available on the end use of materials and location of this use. However, some good data is available, such as that published by the Forestry Commission (see 2002 & 2002a as examples of this).**
 - It is recommended that Government and Industry work together to improve the data available, for example improved research on supply chain analysis, which would aid and provide a better understanding of resource use and of the flows between manufacturing sectors.
- **More comprehensive data on water use and waste water arisings should be collated, however this may become more readily available with the *Implementation of the Water Framework Directive* (see European Parliament, 2000).**

UK's Report Card

- ❖ Policy outcomes – Sustainable Development : the UK Strategy (1994) which became Quality of Life Counts (QoLC, 1999)
- ❖ Versus
- ❖ Government processes – Sustainable Development in Government (SDiG) or 'Greening Government' annual reports

Sustainable Development - the UK

Government's approach

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Achieving a better quality of life

This website reports on progress by the United Kingdom as a whole towards sustainable development, the simple idea of ensuring **a better quality of life for everyone, now and for generations to come**

Quality of life counts

Business Sector Package

QOLC includes a number of indicators relevant to businesses. The main ones are included here for ease of reference. Because this is a set of indicators intended to provide an overview of key sustainable development issues at a UK level, it has been necessary to be selective. The indicators appear here in the order in which they appear in the sustainable development strategy, *A better quality of life*. Businesses may find it helpful to develop supplementary indicators reflecting their own activities in more detail. The further economic, social and environmental indicators in the full framework could provide a useful checklist for this.

- Chapter 5: Further analysis of industry or services sectors

Ref no	Indicator		Data used	Change since		Targets
				1970	1990	
A SUSTAINABLE ECONOMY						
A1	UK resource use		To be developed	T
A2	Energy efficiency of economy		1950-1998	✓	✓	
H15	Waste arisings and management (headline)		1998	
A4	Waste by sector		To be developed	T
A6	Materials recycling	Scrap metal	1984-1998	...	≈	
		Paper & board	1984-1998	...	✓	
		Glass	1984-1998	...	✓	
B3	Labour productivity		1997	✓	✓	
B4	UK imports, exports, trade balance		1970-1998	✓	✓	

Sustainable Development - the UK

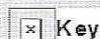
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Quality of life counts



Key



significant change in direction of meeting objective



no significant change



trend is uncertain or no quantitative data available



significant change in direction away from meeting objective

na

not applicable, in cases where the indicator is for contextual purposes

T

a target or goal exists for this indicator - details of the target/goal are given on the indicators individual page.

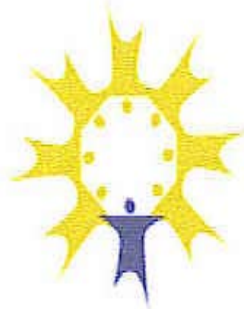
...

no or insufficient data available

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Sustainable Development Commission

People • Planet • Prosperity

Press Notice: 04 April 2004

Government must do more to improve quality of life

A report published today (Tuesday 13 April 2004) by the Sustainable Development Commission (SDC) welcomes Government efforts to protect the environment, reduce unemployment, alleviate poverty, increase life expectancy and improve education, but appeals for fundamental policy shifts to improve overall quality of life and tackle issues like inequality, climate change, traffic, waste and obesity.

Shows Promise: But Must Try Harder is the Sustainable Development Commission's review of the Government's progress over the past five years towards the creation of a sustainable society. While praising some areas of policy and performance, the report questions the Government's own assessment of its successes, and challenges its fundamental belief that economic growth should be the driving force behind all policy decisions.

UK HEADLINE INDICATORS
(WWW.SD-COMMISSION.GOV.UK/PUBS/ASSESSMENT/INDEX.HTML)

ECONOMIC GROWTH	POOR
INVESTMENT	POOR
EMPLOYMENT	DISAPPOINTING
POVERTY	SHOWS PROMISE
EDUCATION	SHOWS PROMISE
HEALTH	DISAPPOINTING
HOUSING	DISAPPOINTING
CRIME	POOR
GREENHOUSE GAS EMISSIONS	DISAPPOINTING
AIR QUALITY	GOOD
ROAD TRAFFIC	DREADFUL
RIVER WATER QUALITY	GOOD
WILDLIFE	SHOWS PROMISE
LAND USE	SHOWS PROMISE
WASTE	DREADFUL
OVERALL	69

1976: The best year of our lives

Economists single out period as British high point

CAMERON SIMPSON

IT WAS the year inflation rocketed to nearly 17% and Brotherhood of Man went to number one, the pop equivalent of landing on the moon.

Only half the country had a telephone and hardly anyone had a computer. By the end of the summer, the economy had become so weak that the Labour government had to seek a loan from the International Monetary Fund.

But according to the New Economics Foundation, 1976 was the best year on record for Britain's quality of life.

The findings were compiled for the foundation by Professor Tim Jackson, of Surrey University, who used a new yardstick – the measure of domestic progress (MDP) – to alight on 1976.

However, his findings left other economists groping in the dark. One admitted to being frankly "amazed" at the choice of the year.

According to the foundation, the MDP reflects progress in Britons' quality of life and progress towards a sustainable economy by factoring in the social and environmental costs of economic growth, and benefits of unpaid work such as household labour, that are excluded from gross domestic product.

GDP focuses more on the gap between earnings and inflation to judge quality of life in terms of how much the country produces, spends and borrows.

All indicators led Professor Jackson to 1976, the year which included the birth of punk and the death of Chairman Mao, as the peak for financial, environmental and social conditions in Britain.

It was the year that David Wilkie, the Scots swimmer, won the Olympic 200 metres breaststroke in Montreal in a world record time. It was also the year in which Harold Wilson resigned and Jimmy Carter became US president, a space probe landed on Mars, and Starsky & Hutch was still on television and not the cinema,

which was dominated by Taxi Driver and Rocky.

Other highlights included one of the hottest summers on record, and John Curry winning ice skating gold in the winter Olympics.

However, industrial unrest, Britain's debts to the IMF, unemployment of 4% and rampant inflation were among the low points, with vocal accompaniment from Abba's Dancing Queen or Forever and Ever by Dennis Roussos.

Professor Jackson said: "There is this comforting myth that things are getting better, but there has been a flatness in the index of quality of life for years. We all want to say we're better off. But then there are the hidden costs of climate change that we may not have to face until the future."

"If we are relying for growth on an economy with rising crime, growing inequality, and the destruction of the environment, that's not a very good way to proceed."

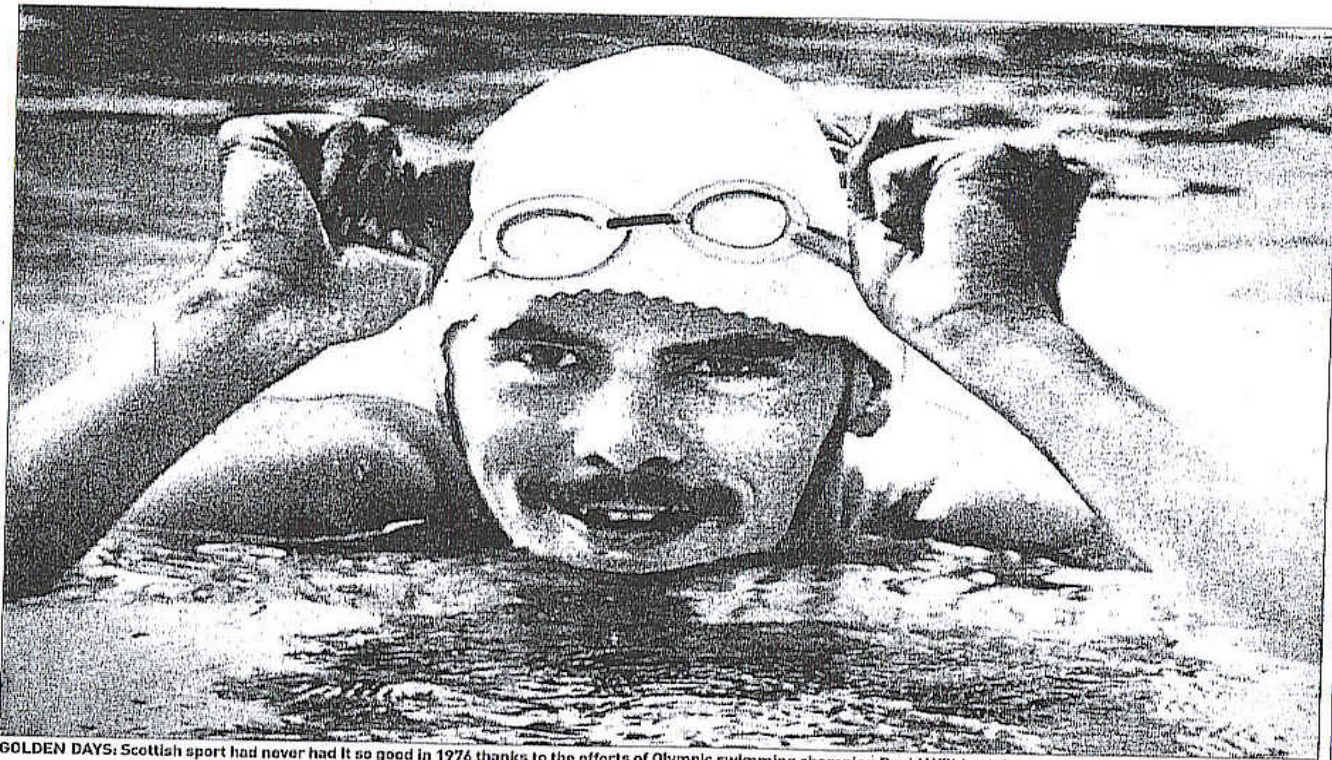
Other economists say a higher life expectancy and a modern Britain in which more people hold educational qualifications show that the quality of life has improved in the past 28 years.

However, Professor Jackson said: "There may be intangible benefits of being better qualified and life expectancy has improved a little. But there are all sorts of other intangibles we have tried to look at."

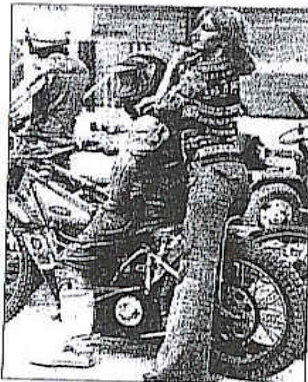
Most people believe they are better off now than in the past but that is because many want to believe it too, he said.

Kenneth Low, of Strathclyde University's Fraser of Allander Institute, said he was "amazed" that 1976 had been singled out as the best for Britain's quality of life. Mr Low, who was 16 in 1976, said "we had just come through the oil crisis in 1974" and were headed for "a winter of discontent".

He added: "It's difficult to see how you measure welfare. It's right that you try to measure things but there are a lot of things about the quality of life that are subjective."



GOLDEN DAYS: Scottish sport had never had it so good in 1976 thanks to the efforts of Olympic swimming champion David Wilkie at the games in Montreal.



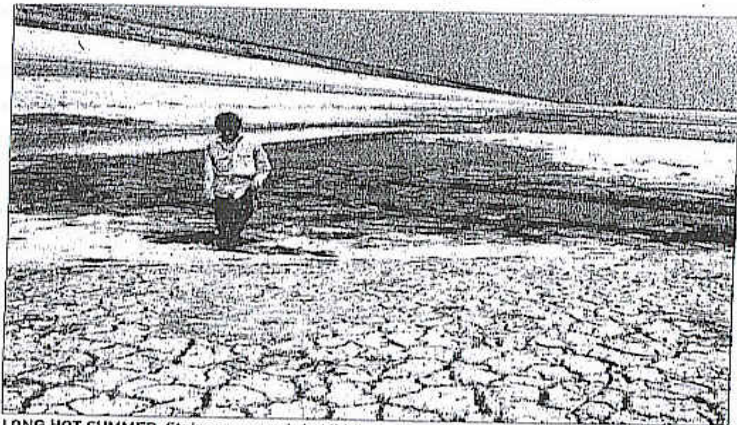
WEARING IT WELL: Levi's Indigo Bush jeans – which retailed at £10.95 – were the height of 1976 fashion.

THE YARDSTICKS

• The MDP reflects progress in Britons' quality of life by factoring in the social and environmental costs of economic growth, and benefits of unpaid work such as household labour, that are excluded from GDP.

• MDP also looks at crime rates, energy consumption, pollution and public sector investment, all of which peaked in the mid-seventies.

• GDP soared in the past 50 years, where MDP struggled to rise at all. The divergence with GDP is especially stark over the past 30 years: GDP increased 80%, but MDP fell sharply in the 1980s, and has never regained its 1976 peak.



LONG HOT SUMMER: Staines reservoir in Middlesex, during the drought of 1976.

Scotland is praised by UK SDCommission but....!

- ❖ ‘There have been serious attempts by the young Parliament and Executive to put (SD) at the centre of policy making. The First Minister has made a strong commitment to SD and environmental justice’ but
- ❖ We are anxious to see faster change with a stronger more comprehensive SD strategy and a better set of indicators with more challenging targets. We also see the need ..to achieve more joined up action and better integration of environmental, social and economic policies (SDComm, 2004 :87,88)

Arguments about Government Process



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Appendix

GOVERNMENT RESPONSE TO ENVIRONMENTAL AUDIT COMMITTEE REPORT:
"GREENING GOVERNMENT 2003" (Thirteenth Report of Session 2002-03)

Environmental Audit Committee

Many departments are still unable to provide lists of new policies and the results of screening them for environmental impacts some 3 years after the Government set this as an objective.

Government Response

Departments are increasingly taking steps to formalise their commitment to SD within the context of their main areas of responsibility. This is demonstrated by the growing number of departmental SD strategies...

SD Commission comment

...it is not sufficient simply to create departmental strategies – they must be implemented and regularly monitored. It is clear that much more needs to be done in some departments.

Scotland's Report Card

Scottish Executive Environment Group

Meeting the Needs...Priorities, Actions and Targets for sustainable development in Scotland

April 2002
Paper 2002/14

Indicators of Sustainable Development for Scotland: Progress Report 2004

INDICATORS PROGRESS CHART

Indicator		Progress since 1999	Progress on previous year
1	Sustainable prosperity	✓	✓
2	Work: people as a resource	✓	✓
3	Population structure	Ⓡ	Ⓡ
4	Waste: production	Ⓡ	X
5	Waste: recycling	✓	✓
6	Waste: landfilled	✓	Ⓡ
7	Climate change	✓	✓
8	Air quality	*	=
9	Water quality	✓	✓
10	Biodiversity	*	*
11	Sea fisheries	✓	✓
12	Energy: consumed	*	X
13	Energy: renewable	*	~
14	Travel: distance	X	X
15	Travel: industry	✓	✓
16	Travel: mode	Ⓡ	Ⓡ
17	Travel: accessibility	Ⓡ	✓
18	Home life	✓	X
19	Preparing for life	Ⓡ	✓
20	Fuel poverty	✓	*
21	Social concern	✓	✓
22	Crime	✓	✓
23	Volunteering	*	✓
24	Health	✓	✓

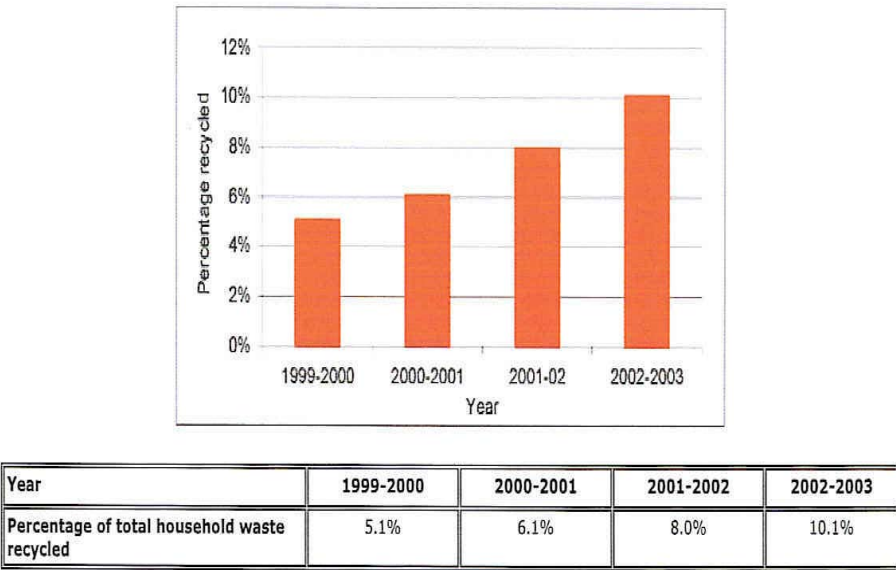
- ✓ moving in the right direction
- = no change
- Ⓡ no significant change
- X moving in the wrong direction
- ~ insufficient data
- * data not available

Scottish Headline Indicators (direction)

Moving in Right direction	13		
No change	1		
No significant change	3		
Moving in Wrong direction	4		
Insufficient data		1	
Data not available		2	
Total	8	3	13

Indicator 5. Waste: recycling

Percentage of total household waste recycled



Source: Accounts Commission for Scotland

Year	2001-02	2002-03
Percentage of municipal waste recycled.	7.4%	9.6%

Source: Accounts Commission for Scotland

The relevance of the indicator

Increasing recycling of materials is part of our strategy to improve resource efficiency - doing more with less.

Choice of Indicator

No common indicator is used internationally to measure recycling of household waste. In some countries the measure relates to municipal waste, in others construction waste is included. In Scotland this indicator is based on estimates of household waste provided by local authorities. In line with European and domestic targets estimates of municipal waste recycling are also recorded for 2001-02 and 2002-03.

Detailed definition and source details

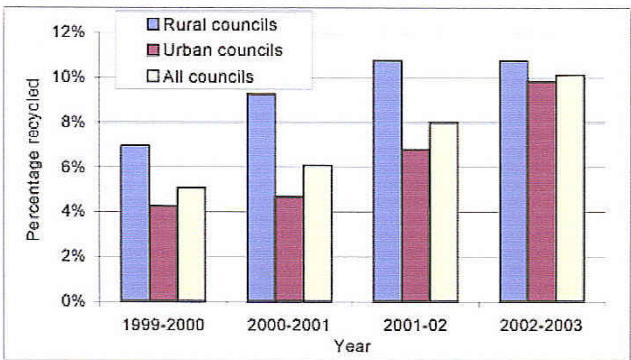
The indicator is defined as the percentage of household waste, collected by or on behalf of councils, that is recycled. It excludes both commercial and industrial waste that is recycled and household waste that is composted by households. Councils obtain waste material for recycling in three ways - through collections at recycling centres (eg bottle banks, paper banks), by separate house-to-house collection of recyclable materials or by separating waste after collection. The Accounts Commission sets out how local authorities should measure indicators in formal instructions each year¹⁷.

Trends

In 2002-2003, 10.1% of household waste was recycled, which is a slight improvement on the previous year. A further 2.2% of household waste, representing a similar tonnage as the previous year, was used for the recovery of heat, power or other energy sources.

Further disaggregation

Percentage of total household waste recycled in rural and urban councils



Source: Accounts Commission for Scotland

Data are available for individual council areas from 1998-99. In recent years, rural councils have generally recycled more household waste than urban councils and, in 2002-2003, 10.7% of household waste in rural councils was recycled compared with 9.8% of household waste in urban councils. Seventeen councils reported recycling more than 10% of household waste (seven more than the previous year). (See the Annex for allocation of council areas to urban and rural.)

Target

To recycle or compost 25% of municipal waste by 2006.

Action

Ministers have taken powers to set targets in the *Local Government in Scotland Act* and to require local authorities to prepare Integrated Waste Management Plans to meet the targets. We have established a Strategic Waste Fund to assist local authorities in implementing Area Waste Plans under the National Waste Strategy and have allocated £230m over 3 years (2003-04 to 2005-06). As of February 2004, we have allocated over £115 million to 24 local authorities.

The Scottish Waste Awareness Group, for which we provide support, is implementing the *Waste Aware Scotland* campaign for use by local authorities as improved recycling facilities are introduced. This ensures that local information on how to recycle is provided at the same time as infrastructure is rolled

Scottish Parliament SD Process



Annual report on environmental management

23/12/2003

The Executive's third annual report, Sustaining Our Working Environment, assessing the work done to improve the Scottish government's environmental performance is published today.

It shows that the Executive continues to make good progress in greening its operations, Minister for Finance and Public Services Andy Kerr said.

The report shows:

- 58 per cent of office waste currently being recycled, an increase on the previous year's figure of 44 per cent
- 80 per cent of the Executive Core Vehicle Fleet now use alternative fuel, an increase on the 2001/02 figure of 70 per cent
- 92 per cent of the paper used for daily use is produced from 100 per cent recycled material, an increase from the previous year's figure of 88 per cent
- water consumption per person has reduced to 8.49m³ from the 2001/02 figure of 10.17m³

Mr Kerr said:

"Our Partnership Agreement makes the Executive's commitment to the environment clear. We want a Scotland that delivers sustainable development, that puts environmental concerns at the heart of public policy and secures environmental justice for all of Scotland's communities.

"It is important that the Executive leads the way. This report is important because it demonstrates we are making good progress in the workplace towards meeting our own sustainable development targets.

"We can only do this thanks to the hard work of people at the frontline. The buy-in from Executive staff has been extremely important and it is they who deserve the credit for us continuing to make good progress in greening the organisation."

Comment

- ❖ Scotland has favourable balance of positive indicators 13/24(54%) over UK 6/15(40%)
- ❖ There is a genuine commitment with new and increased funding for environmental matters – waste, renewable energy etc
- ❖ Government departments in both UK and Scotland are failing to apply SD principles to their own processes

Integrating Economy and Environment - Scotland

- ❖ Corporate Sector in Scotland
- ❖ Scottish Enterprise Network (SEN)

FTSE4GOOD™ UK 50 INDEX

The constituents in the FTSE4Good UK 50 Index are the top companies by market capitalisation from the FTSE4Good UK Index that are not subject to industry exclusions and that have passed the selection criteria with regards to environmental sustainability, relationships with stakeholders and supporting universal human rights. Yield for the FTSE4Good UK 50 is 2.354%. Yield for the FTSE100 is 2.39%.

UK 50 Index Constituents as of 29 June 2001

Rank	Company	Sector	Investible Market Cap (£m)	Weighting in Index
1	BP	Oil & Gas	80,828.77	10.00%
2	GlaxoSmithKline	Pharmaceuticals	72,745.90	9.00%
3	Vodafone	Telecommunication Services	54,663.02	6.00%
4	HSBC	Banks	50,580.14	7.00%
5	AstraZeneca	Pharmaceuticals	49,497.26	6.00%
6	Shell Transport & Trading	Oil & Gas	32,331.51	4.00%
7	Lloyds TSB	Banks	32,331.51	4.00%
8	BT	Telecommunication Services	32,331.51	4.00%
9	Barclays	Banks	32,331.51	4.00%
10	Diageo	Beverages	26,722.60	3.31%
11	CGNU	Life Assurance	22,107.67	2.74%
12	Halifax	Banks	18,470.34	2.29%
13	Abbey National	Banks	17,770.60	2.20%
14	Unilever	Food Producers & Processors	17,436.89	2.16%
15	Prudential	Life Assurance	17,047.80	2.11%
16	Reuters	Media & Photography	13,160.44	1.63%
17	Compass	Leisure, Entertainment & Hotels	12,600.93	1.56%
18	Cable & Wireless	Telecommunication Services	11,673.26	1.44%
19	Bank of Scotland	Banks	10,444.07	1.29%
20	Standard Chartered	Banks	10,248.75	1.27%
21	Cadbury Schweppes	Food Producers & Processors	9,753.03	1.21%
22	Scottish Power	Electricity	9,665.04	1.20%
23	Pearson	Media & Photography	9,229.12	1.15%
24	Centrica	Gas Distribution	9,119.54	1.13%
25	Legal & General	Life Assurance	8,297.93	1.03%
26	WPP Group	Media & Photography	7,871.41	0.97%
27	Royal & Sun Alliance	Insurance	7,661.20	0.95%
28	Marks & Spencer	General Retailers	7,572.50	0.93%
29	BAA	Transport	7,002.06	0.87%
30	Bass	Leisure, Entertainment & Hotels	6,449.24	0.80%
31	Sainsbury	Food & Drug Retailers	6,402.75	0.79%
32	British Sky Broadcasting Group	Media & Photography	6,393.38	0.79%

Business and Society

Developing corporate social responsibility in the UK



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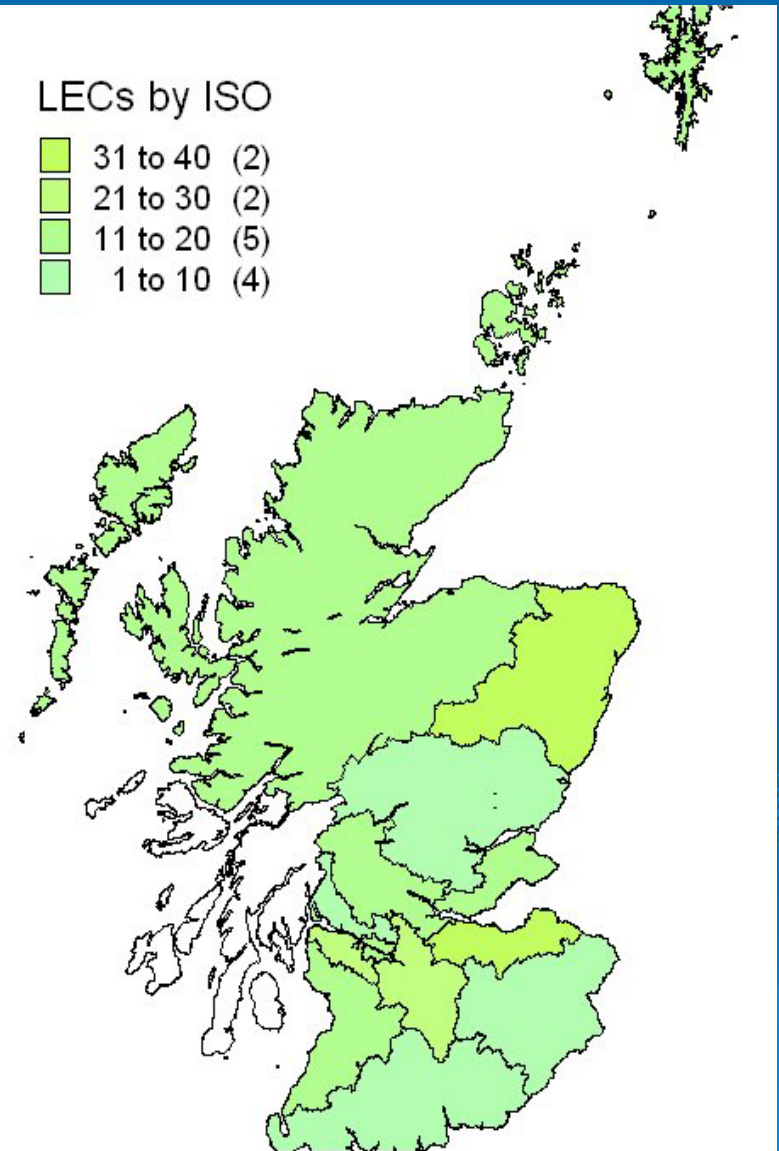
Environmental Management Systems (EMS)

- ❖ Corporate Environmental Management (CEM) is necessary but insufficient in delivering sustainable development as are EMSs but, in indicating a willingness to embrace aspects of SD; engage with environmental legislation and widen SD amongst all staff then EMSs can be seen as necessary.

ISO14000 Companies in Scotland

Local Enterprise Company (LEC)	No. of companies registered with ISO14001 (rank order)
Edinburgh and Lothian	36
Grampian	34
Larkshire	27
Renfrewshire	22
Fife	17
Glasgow	16
Ayrshire	14
Highlands & Islands, Moray Badenoch & Strathspey	13
Forth Valley	11
Tayside	8
Borders	5
Dunbartonshire	4
Dumfries and Galloway	3
Total	210
No. of companies in Scotland (11/04/04)	108,345
%	0.19%
Data taken from IEMA Database (2004)	

LECs by ISO



0.19%

The Herald

Thursday February 19, 2004

Scots losing out on renewable energy bonanza

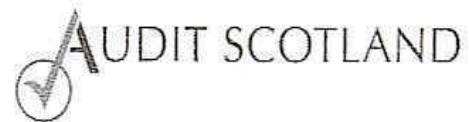
Contracts worth millions are going abroad

Scottish Enterprise

Special audit examination

Prepared for the Auditor General for Scotland

December 2003



SEN – wherefore the environment?

- ❖ Scottish Enterprise Network (SEN) consists of 13 Local Enterprise Companies (LECs); employs 2,500 staff and it's level of expenditure in 2002/3 was £496m with £272m being paid to LECs
- ❖ Governing policy document is 'Smart Successful Scotland' (2001)
- ❖ Sustainable development is incorporated within only one section of the document on page 19 under growing business.

Appendix 1

Scottish Enterprise reported performance against targets 2002/03

	Target 2002/03	Outturn 2002/03
Growing Businesses		
Business start-ups assisted	8,000	8,772
- high growth	175	219
- women	3,040	3,182
- residents from disadvantaged areas	850	1,034
Account managed businesses showing improved innovation performance	500	635
Organisations assisted to market and transact on-line	1,425	2,179
Organisations assisted to launch new products/services and implement processes	520	654
Academic and company spin-outs assisted	50	46
Businesses assisted in achieving recognised environmental standards	50	55
Global connections		
Organisations in key industries assisted to operate internationally, at least 50 of which will involve deeper forms of internationalism (e.g. joint ventures, strategic alliances)	550	746
Planned new jobs through Foreign Direct Investment of a research, design and development nature (out of a total target of 6,000 jobs from Foreign Direct Investment)	900	918
Broadband hub in Scotland providing high quality telecom services at competitive prices	Achieve	Achieved
Accommodation provided for key industries (sq.m)	80,000	116,149
New international business transport links established as a result of SEn influence	3	5
Highly skilled individuals retained or attracted to Scotland (pilot)	100	158
Skills and learning		
Adults in work based training and development activities	8,200	10,647
- adult participants from disadvantaged areas	2,600	3,653
Adults still in employment 3 months after leaving training	2,800	5,658
Participants in Modern Apprenticeships	20,000	25,387
Modern Apprenticeships achieved	5,000	6,404
Low paid staff with low level qualifications undertaking core skills development	2,200	3,199
Investor in People first time recognitions and reviews	800	906

Interview with Senior Member of Staff at SEN


- ❖ Nothing on website. Very little within documentation but lots going on.....!
- ❖ Scottish Industrial Symbiosis Project
- ❖ New business start-ups encouraged to incorporate SD in business plans
- ❖ Multi-agency working on SD issues and sharing of best-practice
- ❖ Green Jobs Strategy
- ❖ Problem(s) – 2,500 staff and most recognise SD but some do not
- ❖ Development culture and traditions difficult to change
- ❖ New CEO looking to reduce 'core' indicators – will SD survive?

Conclusions

- ❖ On the basis of EMS take-up the Corporate Sector in Scotland has yet to embrace SD and the loss of the renewables market tends to confirm this.
- ❖ Government both UK and Scottish are making strides with Scotland moving ahead especially with funding but both still similar to the corporate sector when it comes to their own SD operations
- ❖ The Enterprise Network in Scotland is sending out the wrong and at times contradictory signals but there are reasons to believe things are moving in the right direction. Yet to determine if 'core' will include 'sustainable' in terms of performance measures for the organisation

Environmental Champions
(Hannigan, 1995)

Street Level Bureaucrats
(Lipsky, 1980)

The background of the slide is a solid blue color. In the bottom right corner, there are several sets of concentric circles, resembling ripples in water, rendered in a lighter shade of blue. These circles are of varying sizes and are positioned in a way that they appear to be emanating from the right side of the slide.