



# “GREENING THE WORKPLACE”

## REPORT FOR 2006-07

**A Report on SNH's Environmental Management System  
to improve the environmental performance of our own operations.**



**Bus arriving at new terminus at Great Glen House, Inverness -  
new timetables and services were agreed with Operator to suit staff travel to work  
and to link in with train times into Inverness railway station**

### Contents

- Chief Executive's Statement
- Key Headlines
- Priorities for 2007-10
- Annex – Technical data

## CHIEF EXECUTIVE'S STATEMENT

Greening performance in the previous year (2005-06) did not fully meet all our standards. This led to a complete Review of Greening in 2006, resulting in a new Environmental Management Programme, for adoption in April 2007. 2006-07 is therefore the last year where performance is managed under the old Greening Programme's baselines and targets, some of which are well out of date. Some of the poor performance (energy use and travel – and the related CO<sub>2</sub> emissions) is directly due to Relocation-relocation overlap of offices and teams in Edinburgh and Inverness before and after the new building in Inverness was occupied.

This new building in Inverness (Great Glen House) which we share with The Deer Commission for Scotland and other bodies, exemplifies very good Greening practices. With this project, SNH has learned a great deal about what we can achieve in terms of sustainability at work. Many good procurement, energy, travel planning and waste management practices are now a benchmark for the rest of SNH and all new building projects, and we have promoted this good practice very widely, especially at SNH's 44 properties and with many other public bodies looking to enhance their own environmental performance.

So 2006-07 was a transitional year for SNH – learning from past practices and targets no longer fit for purpose and looking ahead to a better, more devolved, Environmental Management Programme with far greater focus on CO<sub>2</sub> emissions and continuous improvement.

As we move forward into a working environment of more shared services and shared offices, it is important that the public sector works together to help deliver a Greener Scotland where we can all share our environmental and sustainable development aims. SNH is at the forefront of that process and must remain there.

*Ian Jardine*

Chief Executive

### KEY HEADLINES

Target	Outcome	Comment
Reduce energy use by 10% from 2000-01 level by March 2005	<b>(Pass)</b>	Fallen by 7%, or 16% without overlap of Edinburgh & Inverness offices
Install Renewable Energy Systems where technically, environmentally and operationally viable	<b>Pass</b>	4 new systems installed this year
Buy Recycled Products	<b>Pass</b>	continues to improve
Stabilise pool car mileage per head at 2001-02 levels by 2010	<b>Pass</b>	16% lower than 2001-02 level, with 41 well-used Video Conference sets
Provide Bike Racks (at 20 offices) and Showers	<b>Pass</b>	26 offices have bike storage
Reduce paper use by 10% per head of 2000-01 level by March 2005.	<b>Pass</b>	40% less than 2000-01 level
Recycle 80% of solid wastes of 2000-01 levels by March 2005.	<b>Variable</b>	7 offices meet 80% target, with 55% average across SNH
Reduce solid wastes by 10% of 2000-01 levels by March 2005	<b>Unclear</b>	inadequate data for 2000-01
Reduce water use to new benchmark (7.7m <sup>3</sup> /person/year at offices with meters, by March 2006)	<b>Variable</b>	Great Glen House at 5m <sup>3</sup> /p/yr, other offices have high non-staff usage
Obtain best possible Green Tourism Business Scheme rating for appropriate SNH Visitor Centres	<b>Pass</b>	3 Gold and 2 Silver, plus one Bronze
Reduce total CO <sub>2</sub> emissions by 10% from 2000-01 levels by 2010	<b>on target</b>	Data quality issues, plus some Relocation impacts

### Key Aspect 1 – Reduce Energy Use

**Headline target: Reduce energy use by 10% from 2000-01 level by March 2005**

**(Pass)**

- Overall energy use fell by 7% on baseline, but by 16% when the extra 400,000 kWh from the relocation-related overlap of the Edinburgh and old Inverness offices is removed.
- Gas and oil use show a decline through a warmer winter and better heating management at Battleby. The gas total includes use at three Inverness and one Edinburgh office - Great Glen House used 183,300 kWh/year, compared with the **combined** gas use for Hope Terrace (Edinburgh), Fraser Darling House and Ardconnel Terrace (both Inverness) of 294,900 kWh/year, showing the far higher efficiency at GGH.
- Percentage of 'renewables' falls from 40% to 38% due to less electricity use and much more efficient woodchip use at the Aviemore office.
- The planned relocation out of the two Aberdeen offices means that no improvements to the old gas heating or poor insulation has been done.
- Energy use per person is 5869kWh/person/year, ahead of the 6000kWh/person target

### Key Aspect 2 – Greener Properties

- Phase 1 of Isle of May project to upgrade existing solar PV array, add insulation and cut dampness, so reducing bottle gas use for heat/drying and diesel to generate electricity.
- Double-glazing of 28 windows on 6 houses and other Rum buildings, so reducing demand for oil, diesel and coal for heating.
- Phase 1 of major refurbishment at Battleby includes secondary glazing, insulation and heating control upgrades, and redesign of entrances to reduce heat loss.
- Upgrade of lighting, heating and lighting controls and insulation at Cairnsmore visitor centre.
- Moved into Great Glen House office in Inverness, with its highest ever BREEAM rating for a public building.
- Significant Greening/sustainability input into Option Appraisal process for new Aberdeen office, to be co-located with SEPA.

SNH Property Staff now have a 'sustainability matrix' to show which priority actions are to be included in any new-build or refurbishment project. These are no longer 'luxuries' but essential outputs from our properties.

### Key Aspect 3– Renewable Energy

**Headline Target - Install Renewable Energy Systems where technically, environmentally and operationally viable**

**Pass**

- Ground-source heat pumps were installed at Battleby, Forvie and St Cyrus offices.
- Solar Water Heating array installed at Battleby office.

### Key Aspect 4 – Greener Procurement

**Headline Target - Buy Recycled Products**

**Pass**

- 98% of all paper bought is recycled paper.
- 40% by volume of our office consumables are from the 'environmental' products lists.

<b>Key Aspect 5 – Greener Travel</b>	
<b>Headline Target - Stabilise pool car mileage per head at 2001-02 levels by 2010</b>	<b>Pass</b>
<b>Headline Target - Provide Bike Racks (at 20 offices) and Showers (where there is demand and it is operationally feasible)</b>	<b>Pass</b>

Pool car and other vehicle mileage still easily meet our target. A slight rise after the very large drop in 2005-06 is mostly Relocation-related - the combined Edinburgh and Inverness pool car mileage was up 170,000 miles in 2006-07, compared with 2005-06. There was also increased vehicle use by the Uist Wader Project. This also results in more ferry trips (North Uist - Harris).

Travel planning at Great Glen House saw the development of:

- Car sharing information - maps and spreadsheet of home locations in Travel To Work 'zones', information on how to car share and potential savings, emergency 'get you home' arrangements.
- Public Transport support – TTW times and journeys shared with Bus Operator to aid creation of new bus services and timetables to GGH, provision of timetables and other info, bus shelter on site,
- Walking & Cycling – large secure bike shelter, information provided on walking and cycling routes from GGH to city centre, refresh bike loan scheme, very active Bike User Group set up.
- Staff induction includes green travel options.
- A Staff Travel Survey was carried out as part of the Battleby redevelopment planning.

SNH now has:

- 41 videoconference Units at 29 of our offices (with 10 VC rooms at Great Glen House).
- bike racks at 26 offices and visitor centres.
- showers at 19 offices, visitor centres and other properties.

<b>Key Aspect 6 – Managing Waste</b>	
<b>Headline Targets: Reduce paper use by 10% per head of 2000-01 level by March 2005.</b>	<b>Pass</b>
<b>Recycle 80% of solid wastes of 2000-01 levels by March 2005.</b>	<b>Variable</b>
<b>Reduce solid wastes by 10% of 2000-01 levels by March 2005.</b>	<b>Unclear</b>

- Paper Use continues to fall - to 5101 reams/yr (6.9 reams/person) – a fall of 40%.
- Double-sided printers are standard across SNH.
- Our new electronic records system means fewer paper copies are being printed and filed.
- Recycling across all SNH offices to rise. 22 offices achieve better than 50% recycling, seven of which achieve the 80% target, but our national average of 55% is still very dependent on available local facilities provided by local authorities or private contractors.
- Waste management at Great Glen House means no bins at desks, recycling nodes around the office areas for paper, cardboard and confidential paper; with other recycling bins for glass, cans, plastic, compostables in tea points and the canteen – and one bin for 'litter' on each floor. The cleaning and waste management contract specifies an 80% recycling rate of all that is taken off-site. This is achieved. This is now the benchmark for all other offices.

### Key Aspect 7 – Saving Water

<b>Headline Target - Reduce water use to new benchmark (7.7m<sup>3</sup>/person/year at offices with meters, by March 2006)</b>	<b>Variable</b>
---	-----------------

- Great Glen House achieves 5m<sup>3</sup>/person/year (estimate based on part-year).
- Non-staff use at other buildings makes use/staff number inappropriate at many locations (eg Battleby conference centre, Beinn Eighe tree nursery & volunteer centre).

Activity to manage water use at existing offices has been downgraded, but all new build and refurbishment property programmes include water reduction measures as standard.

### Key Aspect 8 – NNRS & Green Tourism

<b>Headline Target - Obtain best possible Green Tourism Business Scheme rating for all appropriate SNH NNR Visitor Centres</b>	<b>Pass</b>
--	-------------

SNH has six Visitor Centres in the GTBS – three at Gold (Noss, St Cyrus and Forvie), two at Silver (Burn O’Vat and Beinn Eighe) and one at Bronze (Cairnsmore of Fleet). Re-assessment of Burn O’Vat and Cairnsmore was delayed because of planned refurbishment work.

### Key Aspect 9 – Promote Greening

The sustainability aspects of the new Inverness Corporate Office have been heavily promoted to many groups and individuals:

- “Green Tours” and presentations have been held for over 400 people – government ministers and MSPs; engineers, architects, procurement specialists and other professionals; and other public bodies wishing to learn from our experience – including SEPA, SEERAD, Highlands & Islands Enterprise, Cairngorms and Loch Lomond & Trossachs National Park Authorities, Scottish Courts, Communities Scotland, VisitScotland, Accountancy in Bankruptcy.
- The Carbon Trust and Buildings Research Establishment both wrote case studies on the sustainability aspects of Great Glen House.
- An interactive touch-screen presentation on Great Glen House was developed, with funding help from The Scottish Executive.

### Key Aspect 10 – Wider Context

<b>Headline Target - Reduce total CO<sub>2</sub> emissions by 10% from 2000-01 by 2010.</b>	<b>On Target</b>
---	------------------

The overall trend in our CO<sub>2</sub> emissions is on target for success. Relocation-related emissions account for some 84 tonnes (from energy use at 4 offices and additional pool car mileage) and are shown separately.

Due to issues with the quality of historical transport data, the 2000-01 baseline level cannot be taken as completely accurate, so some apparent increases in transport-related emissions are products of better management information.

63% of our emissions come from fossil fuel use at our buildings, a little below half of which (c335 tonnes) comes from solid & liquid fuel use on the Island of Rum - for Kinloch Castle, the SNH offices and workshops, plus visitor accommodation and other facilities.

Use of LPG in dual-fuel cars has fallen to an average of 49% across all offices with such cars. SNH will not be buying more LPG-fuelled cars, as diesel efficiency and CO<sub>2</sub> emissions have greatly improved, and poor LPG use (thus higher petrol use) gives poor value.

SNH part-funded (along with VisitScotland and BAA) and helped manage a feasibility study into the viability of a Scotland-based CO<sub>2</sub> offset scheme. The draft report received in March 2007 recommended that a scheme may be possible. Work continues to assess whether it is appropriate for SNH, although it is not a substitute for reducing emissions at source.

### Key Aspect 11 – Planning, Strategy & Management

A complete review of the whole SNH Greening policy, strategy and practice was carried out, taking into account external developments since 1997 (primarily the Scottish Sustainable Development Strategy, the Climate Change Programme, the Scottish Biodiversity Strategy) and drivers (the Efficient Government Initiative, On the Ground and other public sector programmes); as well as ensuring that our environmental practices mesh with our internal corporate processes and developments, and how we engage with partner bodies and the public.

A new Environmental Management Policy and Environmental Management Programme were approved by the SNH Board, for implementation from April 2007.

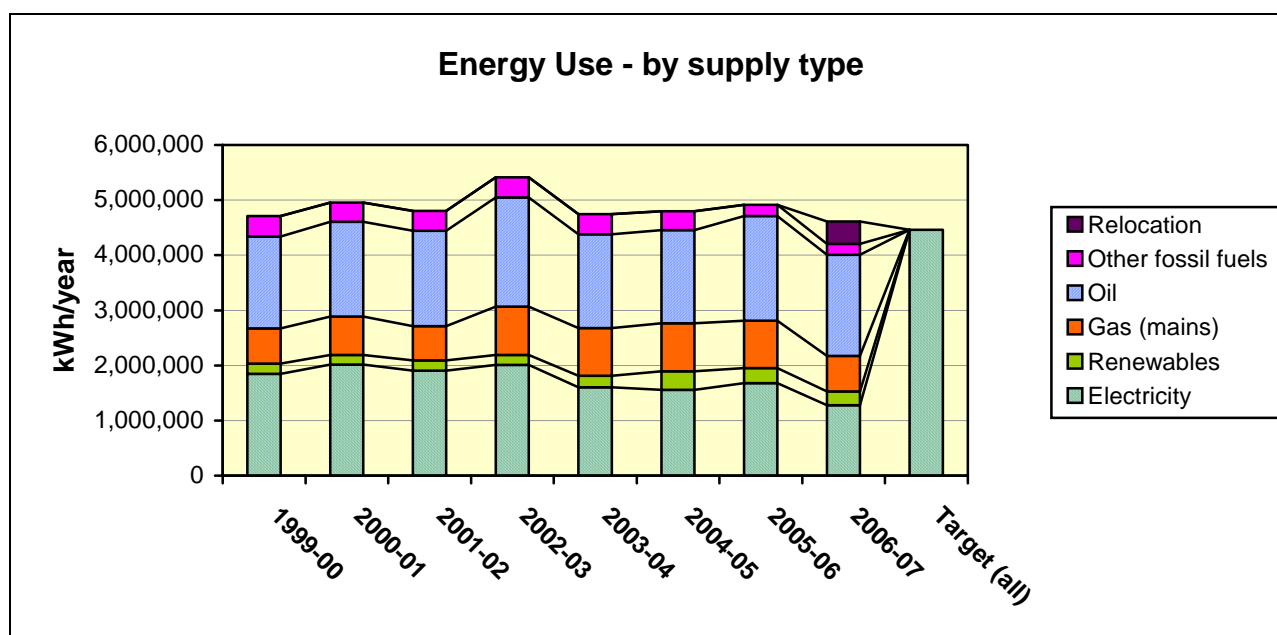
SNH has contributed significantly to the development of shared 'Greening' priorities and working practices in terms of shared office developments – especially the On The Ground building projects, in many cases based on the good experience gained from the Inverness office project.

### FUTURE PRIORITIES 2007-2011

- **Planning** - the SNH Corporate Plan and annual Business Plans for these years will contain the three corporate Environmental Management Programme aims: to manage our resources more sustainably, to reduce our CO<sub>2</sub> emissions, and to make our corporate processes more sustainable.
- **Local Management** - Managers responsible for each SNH office will sign off a 'Green Office Plan' with locally-relevant annual environmental management targets that they are responsible for achieving.
- **National Nature Reserves** - Management of SNH's NNRs will deliver sustainability outcomes - for people, for properties and for the natural heritage.
- **Biodiversity** - the biodiversity of the grounds around SNH's offices and visitor centres will be assessed and enhanced.
- **Property Management** - sustainability criteria will be properly embedded into all property decisions for new-build and refurbishment projects.
- **Carbon offsetting** - this will be considered where effective, robust and adds value and as the last step in the "avoid – reduce – generate – offset" carbon hierarchy.
- **Procurement** - All tenders and contracts issued by SNH will contain generic and specific sustainability criteria.
- **People** - all SNH's 'people' processes will ensure that staff are recruited, trained, assisted and encouraged in sustainable practices.
- **Best Value and wider context** - linkages are made between SNH's Environmental Management Programme and our outward-facing work on sustainability and Sustainable Development will be improved, including the better promotion of the social and economic benefits.

## ANNEX – Technical data

### Reduce Energy Use



Energy source	2003-04	2004-05	2005-06	2006-07	Target
<b>Electricity *</b>	1,602,849	1,558,712	1,676,350	1,479,809	<b>1,717,215</b>
<b>Generated Renewable Electricity **</b>	210,817	211,000	211,000	211,000	<b>173,374</b>
<b>Total electricity</b>	1,813,666	1,769,712	1,887,350	1,690,809	<b>1,890,589</b>
<b>Biomass ***</b>		121,600	66,400	37,600	<b>125,000</b>
<b>Total Renewables</b>	<b>1,813,666</b>	<b>1,891,312</b>	<b>1,953,750</b>	<b>1,728,409</b>	<b>2,015,589</b>
<b>Gas (metered)</b>	866,757	871,761	856,080	841,525	<b>560,542</b>
<b>Oil</b>	1,700,926	1,685,438	1,903,125	1,837,334	<b>1,554,797</b>
<b>Other fossil fuels (deliv)</b>	361,457	343,618	199,066	200,000	<b>327,600</b>
<b>Total non-renewables</b>	<b>2,929,140</b>	<b>2,900,817</b>	<b>2,958,271</b>	<b>2,878,859</b>	<b>2,442,939</b>
<b>Total</b>	<b>4,742,806</b>	<b>4,792,129</b>	<b>4,912,021</b>	<b>4,607,268</b>	<b>4,458,528</b>
<b>N° SNH staff (FTE)</b>	751	758	743	741	
<b>N° non-SNH staff (FTE)</b>				44	
<b>Energy use/ person (kWh)</b>	<b>6315</b>	<b>6322</b>	<b>6611</b>	<b>5869</b>	<b>6000</b>
<b>% Renewables of total*</b>	38%	39%	40%	38%	

\* Electricity includes estimates for non-metered offices.

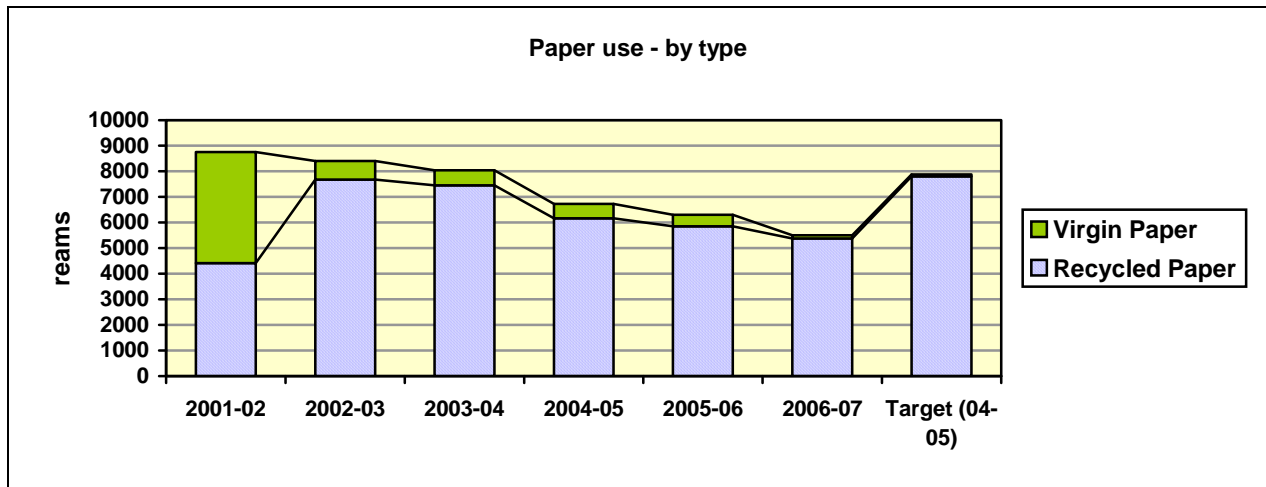
\*\* Self-generated renewables includes: Rum (hydro), Noss, Forvie (wind turbines), Isle of May (solar PV) - estimates

\*\*\* Biomass includes: Aviemore (woodchip heating) – from delivery records.

The gross energy use per person (5869 kWh/person/year) includes all of the Rum properties (fuel and energy for Kinloch Castle, SNH office, workshops, staff homes, ferry terminal, shop and other shared facilities). Removing the 1,353,936 kWh/year consumed and generated on Rum (with only 16 staff) gives a more meaningful figure of 4231 kWh/person/year.

Relocation-related extra energy use from operating GGH at the same time as Hope Terrace, Anderson Place (Edin), Fraser Darling House & Ardconnel Terrace (Inv) comprises:  
 Gas: 200,000 kWh/year                      Electricity: 204,000 kWh/year

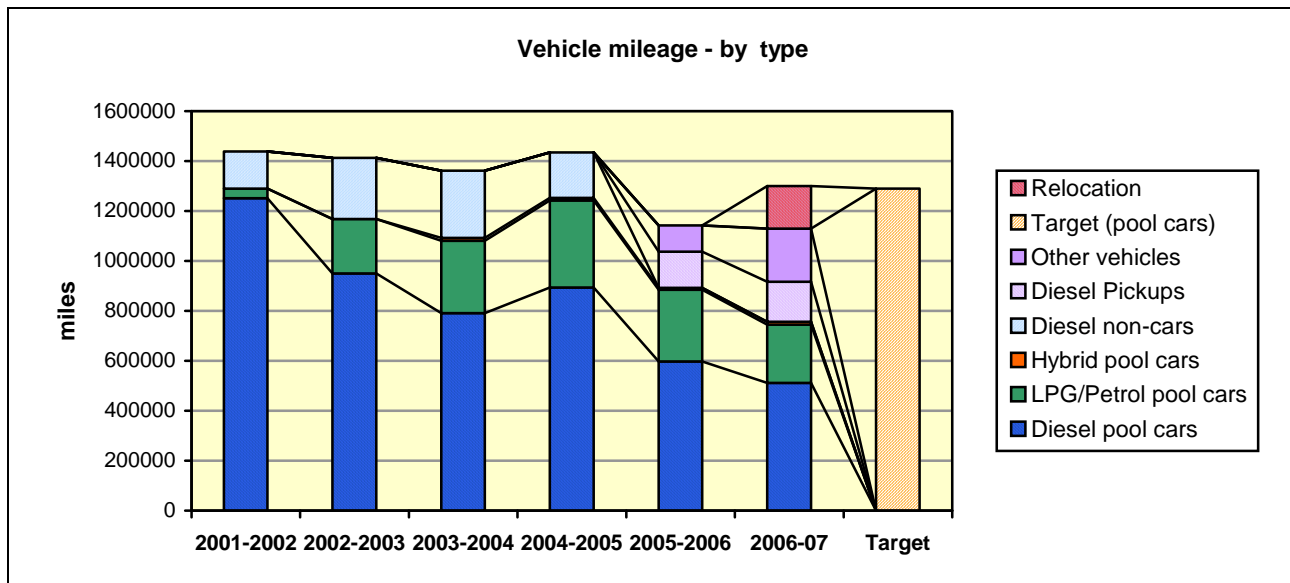
## Greener Procurement



Notes:

All paper is bought from one central supplier. Data are from supplier reports  
 'Recycled' means 100% post-consumer recycled waste

## Greener Travel



### Mileage by vehicle type

Vehicle Type	2003-04	2004-05	2005-06	2006-07	Target
Diesel pool cars	791,644	893,231	597,674	631,112	
LPG/Petrol pool cars	288,923	348,550	286,587	284,308	
Petrol/Elec pool cars	11,406	10,169	8,035	10,461	
Diesel Pickups *	269,019	182,518	144,580	160,152	
Diesel non-cars *			105,160	213,413	
Private cars **	440,000	440,000	433,156	440,000	
<b>Total</b>	<b>1,800,992</b>	<b>1,874,468</b>	<b>1,575,196</b>	<b>1,739,526</b>	
<b>Pool car miles</b>	<b>1,091,973</b>	<b>1,251,950</b>	<b>1,036,876</b>	<b>1,086,033</b>	<b>1,290,311</b>
<b>SNH staff (FTE) ***</b>				<b>741</b>	
<b>Pool car miles/person</b>	<b>1454</b>	<b>1652</b>	<b>1395</b>	<b>1466</b>	

2006-07 saw an additional 170,000 pool car miles by Inverness and Edinburgh staff, compared with previous years, which can be put down to Relocation.

\* The category of 'non-cars' (vans, landrovers etc) was replaced in 2005 by separate entries for 'Diesel pick-ups' and 'other vehicles'.

\*\* Based on analysis of T&S claims for one month and scaled up. Accurate figures will be available from April 2007.

\*\*\* Non-SNH staff based at SNH or shared offices do not use SNH vehicles, so totals are different than for energy use.

Numbers of Pool Vehicle (by type)	2002-03	2003-04	2004-05	2005-06	2006-07
Diesel pool cars	89	79	82	75	74
LPG/Petrol pool cars	14	22	29	29	29
Petrol/Electric pool cars	1	1	1	1	1
Diesel pool Pickups *	42	44	49	23	26
Other pool vehicles **				20	20
<b>Total</b>	<b>146</b>	<b>146</b>	<b>161</b>	<b>148</b>	<b>150</b>

Other Travel modes		2004-05	2005-06	2006-07
Flights – domestic mainland	1	incomplete	(474)	527
Flights – to/from islands		(261)	(272)	323
Flights – overseas		(40)	(53)	144
Rail journeys (booked)	2	incomplete	(2400)	3335
Ferry trips		(228)	(288)	549
<b>Total</b>			<b>(3487)</b>	<b>4878</b>

Notes:

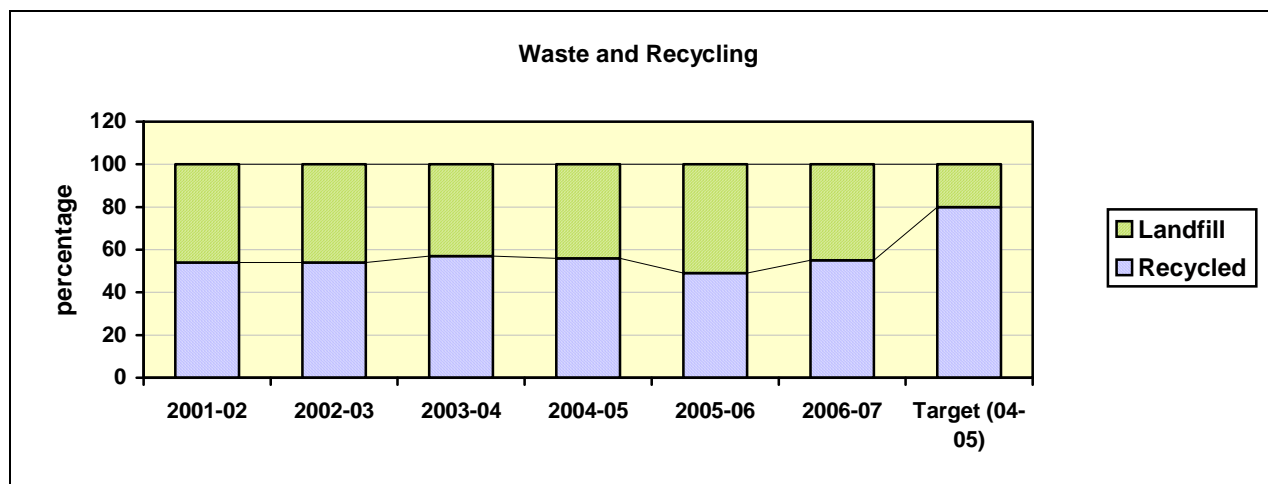
1 - includes domestic leg of some island or overseas flights

2 - excludes a small number of tickets paid for by staff and claimed from T&S.

For all modes – a return journey is two trips.

With more use of SNH credit cards and online bookings to buy travel tickets, we are capturing more of the actual spend – so continually improving the completeness and accuracy of our travel data - **previous years' data are very unreliable for all types of transport, except pool vehicles – thus apparent trends may not be real.** Brackets indicate uncertainty. A new electronic Travel and Expenses system has been developed (starting in April 2007), which will give much more accurate travel data – including real time data for personal vehicles for the first time; and a Review of Travel Booking was begun to simplify the number of ways that travel is managed in SNH and enhance more sustainable options.

## Waste and Recycling

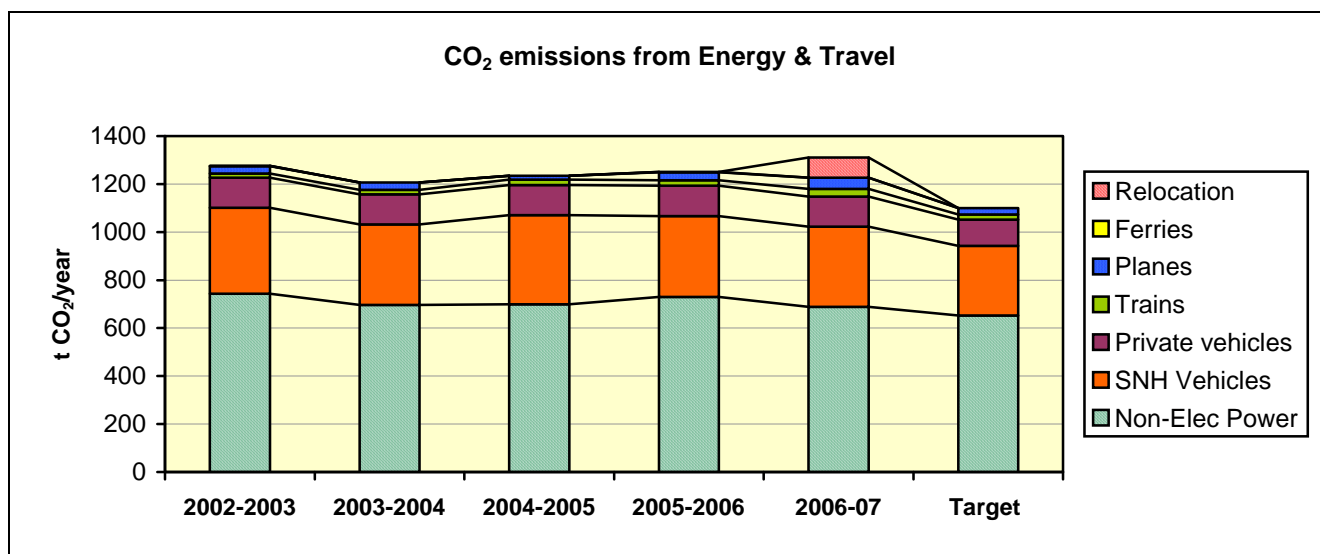


Notes:

Data to December 2005 are taken from annual questionnaires.

Data since January 2006 are taken from monthly estimates provided by each office.

## CO<sub>2</sub> emissions



CO <sub>2</sub> emissions	2002-03	2003-04	2004-05	2005-06	2006-07	Target
Non-electric power	743.5	696.8	699.0	730.5	744.3	652.5
Electricity *	0	0	0	0	0	0
SNH vehicles	358.2	335.1	372.2	336.6	362.4	289.6
Personal vehicles **	125	125	125	125.6	125.6	110
Trains	17	18.6	22.9	23.0	32.0	20.5
Planes	31.5	31.1	15.8	34.2	46.0	27.0
Ferries	0.25	0.24	0.16	0.20	0.45	0.22
Total (tonnes) ***	1150.5	1082	1110.1	(1125)	1183	989.8
	1275.5	1207	1235.1	1250	1311	1099.8
CO <sub>2</sub> per person (t) ****	1.53	1.44	1.46	1.68	1.77	

Relocation-related additional CO<sub>2</sub> emissions comprise:  
Energy - 56 tonnes (gas) and Transport - 28 tonnes (pool cars)

### Notes:

\* There are concerns about the validity of claiming that 'green tariff' electricity truly has zero CO<sub>2</sub> emissions, which will be reflected in Reports from 2007-08.

\*\* Personal vehicle use is based on sample month calculated, scaled up to full year.

\*\*\* Totals are shown with (in red) and without estimated personal vehicle use.

\*\*\*\* CO<sub>2</sub>/person shown for SNH staff only, with personal mileage included.

CO<sub>2</sub> is shown in Tonnes.

Data for electricity (zero-CO<sub>2</sub>) and non-electric power are taken from monthly energy readings and utility bills.

Data for pool vehicles (cars, land rovers and off-road vehicles) are taken from vehicle log sheets.

Data for planes, trains and ferries are taken from finance purchase returns.

Caveats re quality of travel data also apply to CO<sub>2</sub> reports.

The format of this Report is based on the General Guidelines on Environmental Reporting developed by DEFRA, DTI, The Scottish Executive and the National Assembly of Wales.  
CO<sub>2</sub> emission conversion factors are taken from DEFRA's "Revised Guidelines for Company Reporting on Greenhouse Gas Emissions".

**Further Information** - please contact Sheila Currie, Greening the Workplace Officer, at the address below.  
Tel: 01463 725073 email [sheila.currie@snh.gov.uk](mailto:sheila.currie@snh.gov.uk)

This document is available [here](#) on the SNH website. *Paper copies provided by SNH are printed on 'Evolve' business paper made from 100% post-consumer recycled waste.*

"SNH is a non-departmental government body responsible to the Scottish Executive and Scottish Parliament. Scotland's natural heritage is a local, national and global asset. We promote its care and improvement, its responsible enjoyment, its greater understanding & appreciation and its sustainable use now and for future generations."

Scottish Natural Heritage  
Great Glen House, Leachkin Road,  
Inverness, IV3 8NW 01463 725000