



# National Library of Scotland Public Sector Sustainability Report 2013 - 14

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## **1.0 Introduction**

### **1.1 The Climate Change (Scotland) Act 2009**

In 2009 the Scottish Government set what remains, one of the most ambitious pieces of climate change legislation anywhere in the world, namely:

#### **The Climate Change (Scotland) Act 2009**

The Climate Change (Scotland) Act 2009 commits Scotland to reduce its emissions by at least 80% from 1990 levels by 2050; with an interim emissions reduction target of at least 34% by 2020, increasing to 42% if the EU increases its 2020 target to 30% in the event of a global deal on climate change.

Section 44 of Act places duties on Scottish public bodies in relation to climate change. From 1 January 2011 any public body, has, in exercising its functions, to act:

- in the way best calculated to contribute to the delivery of the Act's emission reduction targets;
- in the way best calculated to help deliver any statutory programme for adapting to the impacts of climate change; and
- in a way that it considers most sustainable.

By way of meeting these duties the National Library of Scotland (NLS) shall report on sustainability alongside its Annual Report and Accounts.

This report endeavours to follow the guidance provided Scottish Government Public Sector Sustainability Reporting – Guidance on the Preparation of Annual Sustainability Reports Financial Year 2012-13.

The aim of this guidance is the production of consistent and comparable approach to the publication of sustainability information between both different public sector bodies and different accounting periods for the same bodies.

### **1.2 Scottish Climate Change Adaption Programme**

The Scottish Climate Change Adaptation Programme was laid in the Scottish Parliament on 29 May 2014.

This Programme sets out Scottish Ministers objectives, policies and proposals to tackle the climate change impacts identified for Scotland in the UK Climate Change Risk Assessment as required by section 53 of the Climate Change (Scotland) Act 2009.

Guidance to assist public bodies comply with the duties can be found at [www.scotland.gov.uk/Publications/2011/02/04093254/0](http://www.scotland.gov.uk/Publications/2011/02/04093254/0).

## 1.2 The Government Economic Strategy

The Government Economic Strategy identifies the strategic priorities which it considers will accelerate recovery, drive sustainable economic growth and develop a more resilient and adaptable economy.

In September 2011 the Scottish Government established the **Transition of Scotland to a Low Carbon Economy** as an additional Strategic Priority

“Securing the transition to a low carbon economy is an essential element within all the Strategic Priorities - with implications for business, government, and Scotland's people. But the need for urgency to meet our emissions targets and to take advantage of the current conditions for adaptation and investment has motivated the creation of a specific Strategic Priority focused on the low carbon economy.”

The actions reported within this report demonstrate how the NLS operation is acting in support of this priority.

## 2.0 Summary of Performance

### 2.1 Green House Gas emissions

The National Library of Scotland (NLS) began working with the Carbon Trust on the Carbon Management Programme on 11 November 2009 and submitted its completed Carbon Management Plan prior to the programme deadline of 27 April 2010

NLS set a low carbon vision, which stated that:

**NLS will rise to the ambition demonstrated by the Scottish Government and play its part in the transformation of the nation into a low-carbon economy**

**NLS will work to become a low-carbon, energy efficient organisation. In doing so it will mitigate against the challenges that climate change and energy security pose to NLS in the medium to long term**

In order to progress toward this, NLS set the following target

**National Library of Scotland will reduce CO<sub>2</sub> emissions from its operation by 30% by the end of financial year 2014/15 from 2008/09 levels.**

## 2.2 Scope

The NLS baseline includes all of the significant sources of CO<sub>2</sub> emissions from the delivery of organisation functions across all of its sites. NLS does not outsource any of its services off site. The scope relates to the utilities used in buildings, waste and transport of delivering the functions of an organisation, but not the embedded emissions in the goods procured by the organisation. The baseline is made up of CO<sub>2</sub> emissions from:

- owned buildings energy use
- owned/Leased Fleet Fuel Use
- business travel
- waste produced by buildings and operations (excluding waste from the Agency for Legal Deposit Libraries)
- water used in buildings and operations

## 2.3 Supplementary performance targets

Over and above the Climate Change (Scotland) Act 2009, the Scottish Government has issued a number of action plans which set sustainability performance targets which are relevant to NLS:

### **The Conserve and Save: Energy Efficiency Action Plan 2010**

The Energy Efficiency Action Plan requires specifically that by 2020:


- The public sector will have reduced its energy consumption by at least 12%;
- Individual public bodies will have all set and be monitoring their own ambitious annual energy efficiency targets;

### **Scotland's Zero Waste Plan 2010**

The plan sets a long term target for 2025 of recycling 70% of all Scotland's waste, and only 5% of the remaining waste going to landfill.

Where Scottish Government targets do not exist, NLS has adopted other UK targets, such as the SOGE targets.

## 2.4 Summary of Performance: Status

Area	Target	Target source	2008/09 baseline	2013/14	% change	Status
GHG emissions (Tonnes CO <sub>2</sub> e)	Reduce CO <sub>2</sub> emissions from operations by 30% by the end of financial year 2014/15 from 2008/09 levels	CMP	3,197	1,865	-41.6	
Total energy consumed (kWh)	Reduced its energy consumption by at least 12% by 2020	SG	7,926,596	4,785,342	-39.6%	
Total energy expenditure	N.A		£585,252	£390,045	-33.3%	
Total waste arisings (Tonnes)	Departments to reduce their waste arisings by 25% by 2020, relative to 2004/2005 levels.	SOGE	128.9	64.17	-50.2%	
% waste recycled	Recycle 70% of all waste arisings by 2025	SG	49.3%	70.8%	+21.5%	
% waste to landfill	Only 5% of all waste arisings to go to landfill by 2025	SG	50.7%	27.1%	-23.6%	
Total waste expenditure after income	N.A		£14,452	£12,422	-14.0%	
Water consumption (m3)	Reduce water consumption by 25% on the office and non-office estate by 2020, relative to 2004/2005	SOGE	9,124	5,556	-39.1%	
Water expenditure	N.A		£62,860	£51,800	-17.6%	
Owned transport & business travel (Km)	N.A		1,038,859	852,201	-18.0%	
Owned transport & travel expenditure	N.A		£105,264	£142,561	+35.4%	



Achieved / on target



Progress not sufficient to meet target / negative progress in reporting period



Negative progress

### 3.0 Key Performance Areas

3.1 Greenhouse Gas Emissions			2008/09 (Baseline)	2011/12	2012/13	2013/14	
Non-financial indicators (Tonnes CO <sub>2</sub> e)	Gross emissions Scope 1	Gas	530	364	391	313	
		Organisation owned fleet	12	8	8	8	
		<b>Sub-total</b>	<b>542</b>	<b>373</b>	<b>399</b>	<b>320</b>	
	Gross emissions Scope 2	Electricity	2,511	1,749	1,531	1,374	
		<b>Sub-total</b>	<b>2,511</b>	<b>1,749</b>	<b>1,531</b>	<b>1,374</b>	
	Gross emissions Scope 3	Business travel	117	16	61	159	
		Waste disposal	18	3	4	5	
		Water supply & disposal	10	6	6	6	
		<b>Sub-total</b>	<b>144</b>	<b>25</b>	<b>71</b>	<b>170</b>	
	<b>Total Gross emissions</b>			<b>3,197</b>	<b>2,148</b>	<b>2,001</b>	<b>1,865</b>

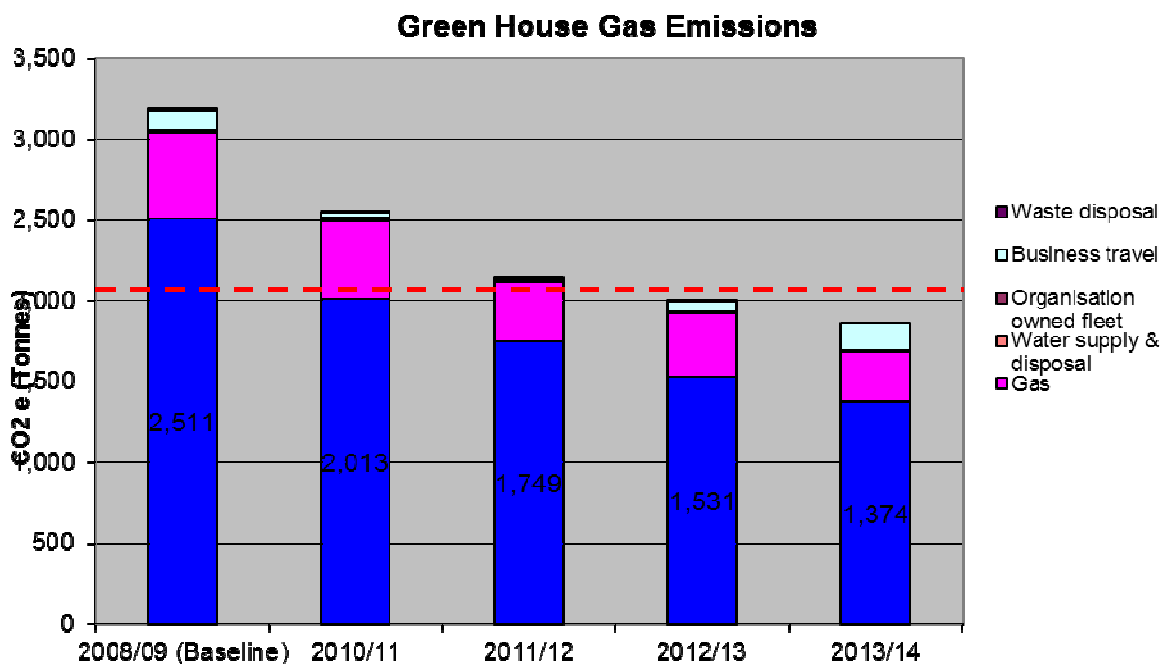
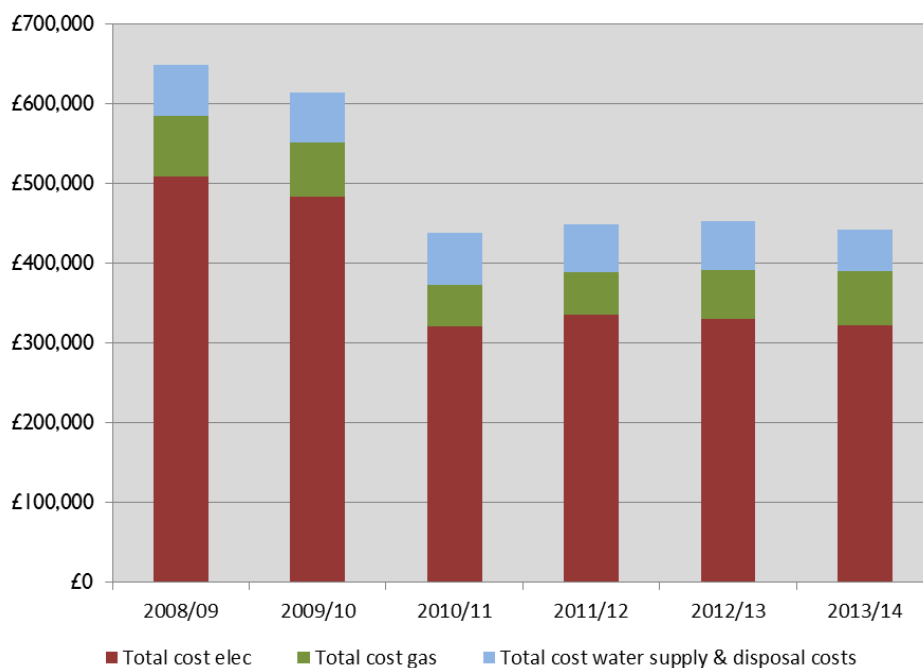


Figure 1 Total Green House Gas emissions

**Targets:** To reduce CO<sub>2</sub> emissions from operations by 30% by the end of financial year 2014/15 from 2008/09 levels. NLS has exceeded this commitment. In light of this the Carbon Management Programme will be reviewed and new targets set.

**Direct impacts:** Ninety five per cent of NLS emissions arise from energy consumption, of which four fifths results from the consumption of electricity. As part of the work to reduce consumption, significant works has been done to improve the management of environmental conditions within the collection storage areas, which has had the added benefit of improving conformity.

<b>3.2 Energy consumption</b>		<b>2008/09</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Non-financial indicators (kWh)</b>	Electricity non-renewable	5,061,828	3,869,929	3,328,460	3,085,087
	Electricity renewable	0	0	0	0
	Gas	2,864,767	1,983,791	2,111,620	1,700,255
	LPG	0	0	0	0
	Other	0	0	0	0
	<b>Total energy</b>	<b>7,926,595</b>	<b>5,853,720</b>	<b>5,440,080</b>	<b>4,785,342</b>
	Total electricity per m sq	130	112	104	89
	Total gas per m sq	74	70	53	57
	<b>Total energy per m sq</b>	<b>204</b>	<b>182</b>	<b>157</b>	<b>146</b>
	<b>Financial indicators</b>	Total cost elec.	£508,988	£335,538	£330,881
	Total cost gas	£76,264	£53,810	£60,563	£68,070
	<b>Total cost</b>	<b>£585,252</b>	<b>£389,348</b>	<b>£391,444</b>	<b>£390,045</b>
	Total cost elec. / total elec. consumption per kWh	£0.101	£0.087	£0.099	£0.104
	Total cost gas / total gas consumption kWh	£0.027	£0.027	£0.029	£0.040
	CRC License expenditure	£0	£0	£0	£0



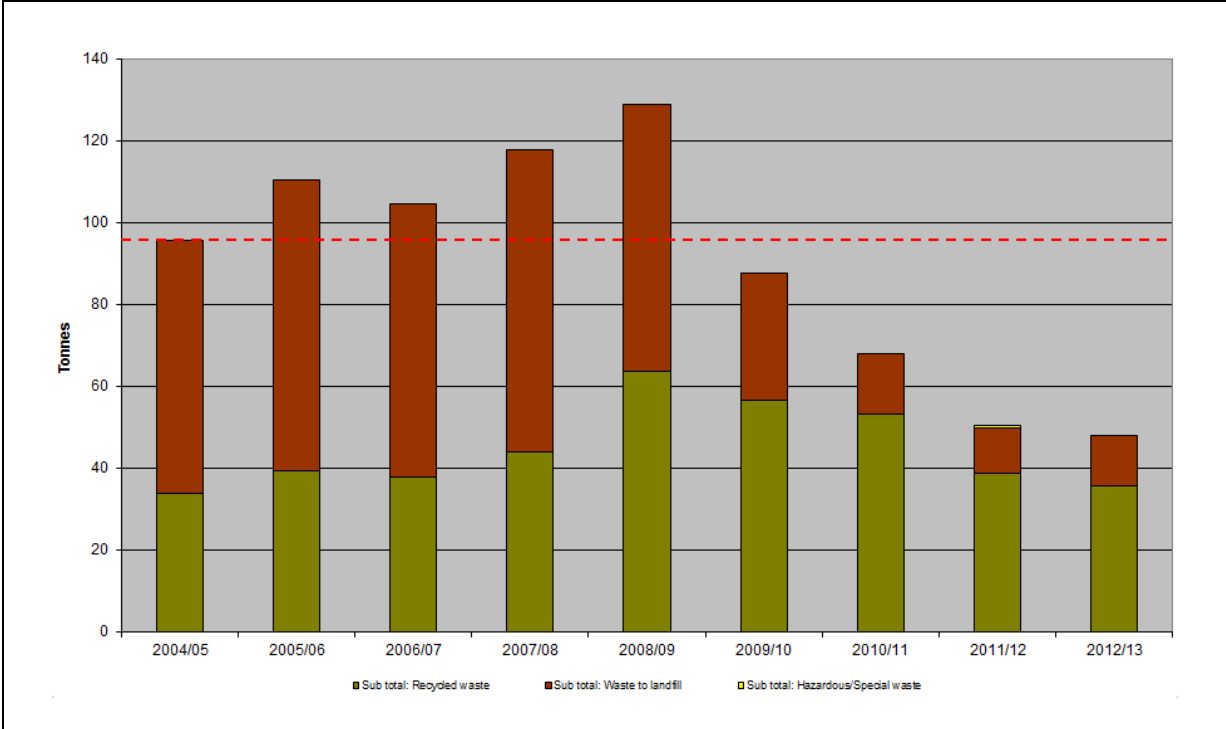
**Figure 2 Total utility costs**

**Targets: To**



**Direct impacts:** Ninety one per cent of NLS emissions arise from energy consumption, of which seventy four per cent results from the consumption of electricity. NLS has therefore focused its effort on reducing the amount of electricity that it consumes. This has had the effect of stabilising utility costs over the past three years, despite rises in unit price.

<b>3.3 Waste (Excluding construction)</b>		<b>2008/09</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
<b>Hazardous / special waste (Tonnes)</b>	Hazardous waste	0.16	0.16	0.56	
	Clinical waste			0.02	
	<b>Sub total: Hazardous/Special waste</b>			<b>0.58</b>	
<b>Non-Hazardous: Re-used / Recycled / Composted (Tonnes)</b>	Aluminium & steel cans	0.04			
	Cardboard	3.09		6.00	5.31
	Plastic bottles	0.02			
	Paper - General	10.09			
	Mixed recycling	14.66	22.07	11.32	11.36
	Timber		5.43	0.56	0.74
	Paper - Confidential	26.61	1.69	1.38	1.17
	Metal	3.62	9.37	4.84	3.86
	Glass	1.61	1.90	2.64	2.05
	WEEE	3.52	3.46	1.44	3.13
	Print cartridges	0.27	0.09	0.19	
	Box board		5.03	5.82	3.66
	Food waste (Composted)		2.75	2.36	2.50
	Sundries (Furniture etc.)		1.45	2.25	2.00
		<b>Sub total: Recycled waste</b>	<b>63.54</b>	<b>53.25</b>	<b>38.79</b>
<b>Non-Hazardous: Landfill (Tonnes)</b>	Solid waste to landfill (bins)	54.31	13.73	9.62	10.77
	Solid waste to landfill (skips)	11.05	0.95	1.46	1.46
	<b>Sub total: Waste to landfill</b>	<b>65.36</b>	<b>14.68</b>	<b>11.08</b>	<b>12.23</b>
<b>Non-financial indicators (Tonnes)</b>	<b>Total waste arisings</b>	<b>128.90</b>	<b>67.93</b>	<b>50.46</b>	<b>48.97</b>
	<b>% Waste recycled (SG &amp; SOGE)</b>	<b>49.3%</b>	<b>78.4%</b>	<b>76.9%</b>	<b>73.0%</b>
	<b>% Waste to landfill (SG &amp; SOGE)</b>	<b>50.7%</b>	<b>21.6%</b>	<b>22.0%</b>	<b>25.0%</b>
<b>Financial indicators</b>	<b>Total waste disposal cost</b>	£14,452	£11,489	£12,339	£16,104
	<b>Total waste income</b>	£0	£1,136	£629	£474
	<b>Balance disposal cost</b>	£14,452	£10,353	£11,710	£15,630



**Figure 3 Total waste excluding one off disposal**

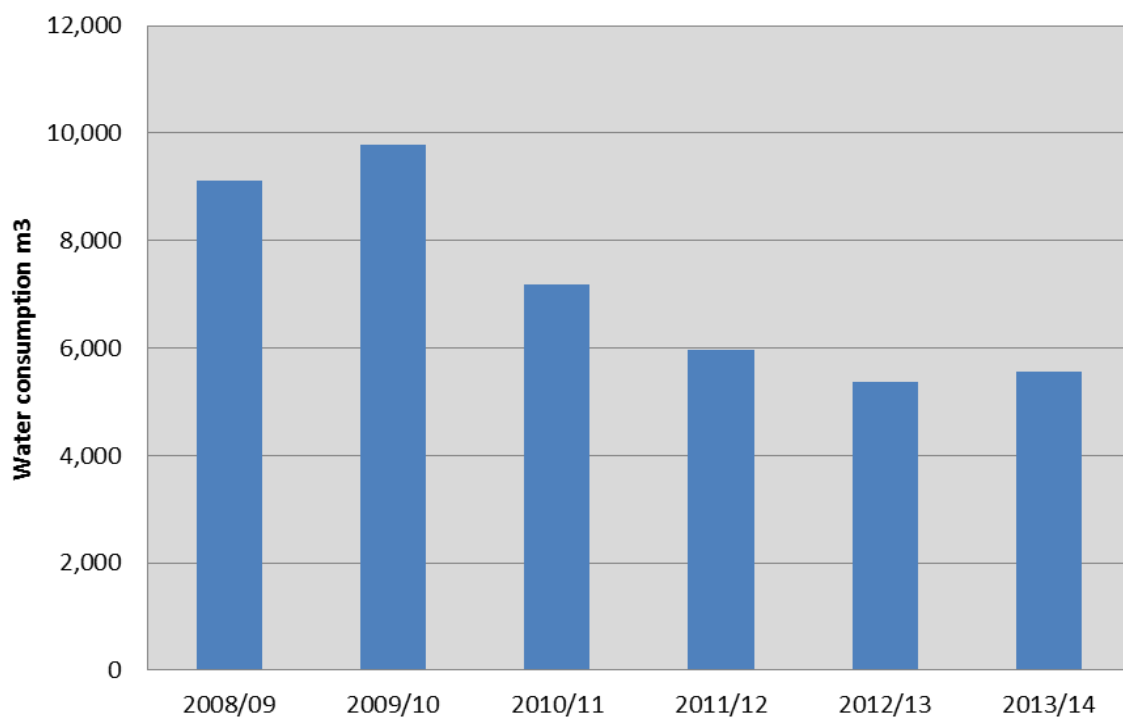
**Target:** To recycle 70% of all waste arisings by 2025 with only 5% of all waste arisings to go to landfill by 2025. NLS has exceeded the target for the percentage of waste recycled for two successive years.

**Direct impacts:** NLS is now in a good position to tender its legacy waste contract as one tender. This should reduce the costs incurred by multiple Duty of Care Certificates and reduce the amount of work required to manage waste disposal from NLS sites

<b>3.4 Finite Resource Consumption - Water</b>		<b>2008/09</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Non-financial indicators (m3)</b>	Supplied m3	9,124	5,960	5,372	5,556
	Disposed m3	9,124	5,960	5,372	5,556
<b>Financial indicators</b>	Total cost water supply & disposal costs	<b>£63,803</b>	<b>£59,726</b>	<b>£61,366</b>	<b>£51,800</b>
	Total cost water / total water consumption m3	£6.993	£10.021	£11.423	£9.323

<b>3.4 Finite Resource Consumption - Water</b>		<b>2008/09</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>
<b>Non-financial indicators (m3)</b>	Supplied m3	9,124	5,960	5,372	5,556
	Disposed m3	9,124	5,960	5,372	5,556

<b>Financial indicators</b>	Water supply & disposal costs	<b>£63,803</b>	<b>£59,726</b>	<b>£61,366</b>	<b>£51,800</b>
	Total cost water / total water consumption m3	£6.993	£10.021	£11.423	£9.323



**Figure 4 Total water consumption**

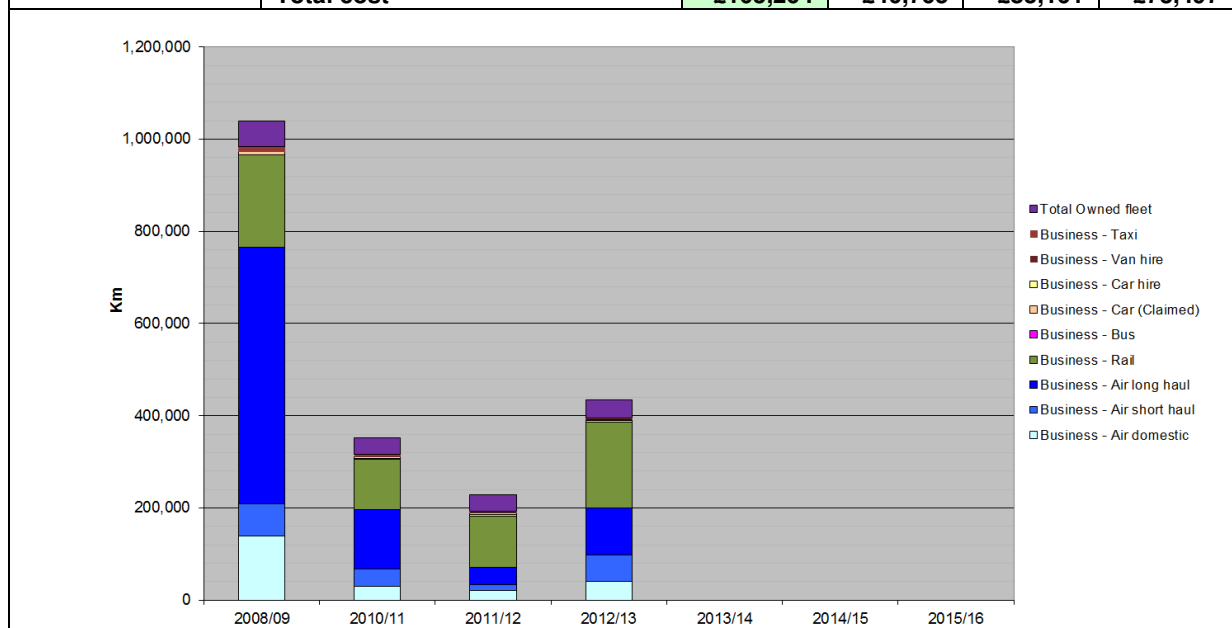
**Target:** Reduce water consumption by 25% on the office and non-office estate by 2020, relative to 2004/2005. NLS has exceeded this target and will therefore set a new meaningful target for water consumption

**Direct impacts:**



3.5 Transport & travel		2008/09	2010/11	2011/12	2012/13
Non-financial indicators (Km )	Owned fleet	54,247	36,331	36,421	39,311
	Business - Air domestic	140,000	29,162	20,358	39,922
	Business - Air short haul	68,952	38,677	13,970	58,500
	Business - Air long haul	556,692	129,181	37,608	101,719
	Business - Rail	200,540	108,518	109,767	186,112
	Business - Taxi	12,230	4,000	1,676	2,272
	Business - Car (Claimed)	6,198	1,770	4,069	2,468
	Business - Van hire	0	1,282	880	444
	Business - Car hire	0	3,302	3,012	2,951
	Business - Bus	0	0	182	252
	<b>Total travel Km</b>	<b>1,038,859</b>	<b>352,223</b>	<b>227,784</b>	<b>433,951</b>

Financial indicators	Total cost - Fleet maintenance & repairs	£4,768	£3,975	£4,223	£4,169
	Total cost - Fleet insurance	£2,886	£1,830	£3,008	£3,376
	Total cost - Fleet fuel	£5,184	£4,387	£5,060	£4,936
	Total cost - Vehicle rental	£3,370	£1,184	£1,655	£1,208
	Total - Taxi contract	£89,056	£29,389	£3,492	£5,057
	Total - T & S			£67,723	£54,651
	<b>Total cost</b>	<b>£105,264</b>	<b>£40,765</b>	<b>£85,161</b>	<b>£73,497</b>



**Figure 5 Total transport and travel**

**Targets:** NLS does not have any travel targets, however green travel principles were embedded in its new Business Travel and Expenses Policy in September 2010, where the order of preference is walking/cycling; bus; rail; shared taxi; shared car; single occupancy taxi/car; air. The travel data suggests that that this policy is being adhered to when staff are making business travel arrangements, although there has been a small rise in domestic air flights

**Direct impacts:** Increased use of the SG travel management service has improved the accuracy of the travel data and reduced the effort required to obtain it. NLS will continue to improve the way that it collects this data

#### **4.0 Biodiversity Conservation Measures**

All of the NLS estate is located on sites within city centres or industrial estates.

NLS does not currently have a formal approach to meeting its duties as a public body to further the conservation of biodiversity when performing its functions, as required under the Nature Conservation (Scotland) Act 2004. The nature of its estate and functions, does mean that opportunity to have a directly impact is very limited

#### **5.0 Sustainable Procurement**

Following self assessment NLS has achieved Scottish Sustainable Procurement Action Plan Level 1, Foundation (excluding people) and is working toward Level 2, Embedded

#### **6.0 Sustainable Construction**

NLS does not currently have a system in place for the management of construction waste, however quality evaluation of waste management performance is included at PQQ and ITT stage for major construction projects. NLS aims to report construction waste separately in future reports

NLS is actively trying to improve the sustainability of its estate by incorporating energy saving measures in all new projects. NLS will seek to achieve a BREEAM rating of Very Good as part of the brief for a major project to refurbish the external envelope of 159 Causewayside, Edinburgh

#### **7.0 Environmental Management System**

**NLS does not currently have an environmental management system in place, although many of the necessary component elements are well established. NLS has begun the process of establishing an ISO 14001 environmental management system, with a view to obtaining certification in 2013/14 -15**

## Annex A: Methodology

### A.1 Baseline conversion factors

The following conversion factors were used to calculate the baseline.

Note: The 2011 conversion factors contain updated factors which resulted in a requirement to update some historic calculations used in the original baseline.

Carbon Conversion Factors DEFRA Guidelines to Defra's GHG conversion factors 2012	2008/09	2010/11	2011/12	2012/13
Elec kge/Co2 per kWh	0.53594	0.52037	0.52037	0.52037
Gas kge/Co2 per kWh	0.18500	0.18500	0.18360	0.18521
Water kge/Co2 per m3	1.05000	1.05260	1.05260	1.05260

Waste (kg CO <sub>2</sub> e per tonne)	Hazardous / special waste	Hazardous waste				
		Clinical waste				
Non-Hazardous: Re-used / Recycled / Composted	Aluminium & steel cans					21
	Cardboard					
	Plastic bottles					
	Paper - General					
	Mixed recycling					
	Timber					
	Paper - Confidential					
	Metal					
	Glass					
	WEEE					
	Print cartridges					
	Box board					
	Food waste (Composted)					
	Sundries (Furniture etc.)					
Non-Hazardous: Landfill	Solid waste to landfill (bins) - Mixed municipal		290	290	290	290
	Solid waste to landfill (skips) - Mixed industrial		199	199	199	199

Transport & travel (Kg CO <sub>2</sub> e per v Km)	Medium diesel car 1.7 to 2.0 ltr	0.18095	0.18095	0.18095	N.A
	Diesel van Class I up to 1.305t	0.15678	0.15678	0.15678	0.15324
	Diesel van Class III 1.74t - 3.5t	0.27011	0.27011	0.27011	0.26642
	Car: Average unknown fuel	0.20459	0.20459	0.20459	0.20459
	Taxi: Black cab	0.24329	0.24329	0.24329	0.23563
	Air: Domestic	0.16484	0.16484	0.16484	0.16685
	Air: Short haul	0.09229	0.09229	0.09229	0.09522
	Air: Long haul	0.08137	0.08137	0.08137	0.10896
	Rail	0.05649	0.05649	0.05649	0.05818
	Bus	0.03064	0.03064	0.03064	0.11195



## **A.2 Scope**

NLS first calculated its baseline in 2009 as part of the process of putting in place a Carbon Management Plan. The baseline includes all of the significant sources of CO<sub>2</sub> emissions from the delivery of organisation functions at all of its sites. NLS does not outsource any of its services off site. The baseline relates to the utilities used in its buildings, waste and transport used delivering the functions of an organisation, but not the embedded emissions in the goods procured by the organisation. The baseline is made up of CO<sub>2</sub> emissions from:

- owned buildings energy use
- owned/Leased Fleet Fuel Use
- business travel
- waste produced by buildings and operations<sup>1</sup>
- water used in buildings and operations

## **A.2 Baseline data sources**

The baseline data was taken for the financial year 2008/09.

### **Stationary sources – Electricity and Gas**

Energy consumption data is gathered from weekly meter readings taken at each of the NLS property assets<sup>2</sup>

### **Waste**

The waste data for the baseline period was compiled by converting volumetric data into tonnage equivalents, based on a waste mapping exercise conducted by Leeds Metropolitan & Bradford Council and the compaction factor of the NLS compactor.

From October 2009 NLS started to weigh the majority of its waste on site. Data from this date onwards is therefore significantly more accurate. The weighed waste data indicates that the volume to weight conversion factors were probably too high, however, a decision was made not to recalculate historic data. Subsequent data is directly comparable.

### **Water**

Water consumption data is gathered from weekly meter readings taken at each of the NLS property assets

### **Transport**

Fleet travel data is compiled from mileage log sheets for each fleet vehicle

Business travel data prior to 2010/11 was taken from business expense claim forms and procurement card log sheets. Where departure and destination information was not provided the following assumptions for a typical generic journey were made to calculate the mileage:

- Train £3 - £20 = Edinburgh to Glasgow return
- Train £21 - £50 = Edinburgh to Dundee return

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<sup>1</sup> Excluding waste from the Agency for Legal Deposit Libraries

From 2010/11 Business travel data for journeys over £50 is as provided by the Scottish Government travel management service. Travel data below £50 continues to be collated from business expense claim forms and procurement card log sheets. Due to the introduction of new claim forms which capture travel information, there were very few journeys where departure and arrival details could not be identified.

Travel costs prior to 2012/13 were inclusive of subsistence due to difficulties in separating costs within the Travel and Subsistence cost centres. The 2012/13 costs exclude obvious no travel spend, e.g. hotel stays and meals.

Taxi data prior to 2011/12 was calculated by using a conversion factor of £1 = 1 kilometer. Taxi data for 2011/12 is as provided by the Scottish Government taxi provider

Claimed car mileage is as recorded on expense claim forms.

Car hire data is as provided by the Scottish Government vehicle hire provider.