

Annual Environmental Report

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2012



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For publication

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EXECUTIVE SUMMARY

This is the fifth Annual Environmental Report of High Performance Sports (The Castle Climbing Centre, The Castle Cafe and The Castle Shop) and fulfils our obligations set out in our Sustainability Policy. This report is our best attempt at analysing our environmental impact as a business between January and December 2012.

- Our carbon footprint for 2012 is **104.98 tonnes CO₂e**, a 10% rise from 2011 but a 39% reduction from when we started reporting in 2008. The rise is mainly due to the increase in our electricity and gas consumption, probably due to our need for extra heat during the particularly cold winter.
- We are increasing our use of garden produce in the Café and continue to improve our percentage of organic food and products in both the Café and the Shop. The garden supplied 428.33 kilos of produce for the Café. The garden also began production of herbal products to sell within the Castle, including herbal tea gift bags, balms and bath infusions.
- We were able to reduce our packaging from the Café by increasing the amount of food produced on site. A key achievement has been reducing the amount of waste to landfill from 53% of our total waste in 2008 to 10% in 2012.
- Our travel (business and staff trips) increased by 10% in 2012, but because most travel (75%) is done on public transport (mostly train) and car travel fell slightly from previous years, our footprint in this category only increased by 1%.

- The installation of rainwater storage tanks has reduced our use of mains water by 14% since last year.
- The Castle granted three eco-grants to staff members. The projects included a sea kayaking expedition in Indonesia and two placements on organic farms.
- We received our planning permission for the final stage of development at The Castle. In all aspects of the planning we have considered the most sustainable materials and tried to incorporate features to improve the energy efficiency of the building. Enabling works in the Engine House began in November 2012.
- We won two Sustainable City Awards and were highly commended in two further categories. We also came second in a Capital Growth Grow for Gold competition.

Although we consider ourselves industry leaders in sustainability, it has been a disappointment that our carbon footprint has not shrunk since last year. This has highlighted the importance of improving the energy efficiency of the building in our developments. On reflection, what I'm most proud of is that four years after our initial and groundbreaking Sustainability Policy considering the sustainable impact of our decisions, though less exciting than it initially was, has become second nature to us and is part of all of our decision-making.

I would like to thank my colleagues, the staff and our customers who continue to support us in our drive to be carbon neutral by 2015.

Audrey Seguy
Managing Director
 October 2013

OUR ENVIRONMENTAL MANAGEMENT SYSTEM

Our EMS consists of our Sustainability Policy and this Annual Report to evaluate our impact. All staff are required to comply with our Sustainability Policy and we welcome suggestions from all staff in improving our performance. The Sustainability Policy is driven by our CEO and founder, **Steve Taylor** and implementation is led by the Managing Director, **Audrey Seguy**. Additionally, members of the management team and other employees are encouraged to take on projects of particular interest to them. Formal accreditation has not progressed in 2012, largely due to the MD being on maternity leave for six months.

CARBON FOOTPRINT

When we first published our Environmental Reports, we used the Carbon Trust's methodology and Carbon Footprint calculator, but from 2011 we have had to do our own calculations using the Greenhouse Gas Protocol (www.ghgprotocol.org). Emissions factors are updated regularly as new data emerges. For this report we have used Defra's 2012 GHG conversion factors or identified another source if required. We calculate the carbon footprint of the trading activities (climbing centre, shop and café) and premises (London, Buxton) of High Performance Sports Ltd. We do not include other companies that operate within the centre such as Bikemech, RAT, Capital Safety, ClimbersClinic or Geckos.

SCOPE AND METHODOLOGY

The most widely accepted approach when measuring an organisation's greenhouse gas (GHG) emissions is to identify and categorise emissions-releasing activities into three groups (known as scopes). These are:

- **Scope 1 (Direct emissions):** Activities owned or controlled by your organisation that release emissions straight into the atmosphere.
- **Scope 2 (Indirect emissions from electricity, heat and steam):** Emissions that are a consequence of your organisation's activities but which occur at sources you do not own or control.
- **Scope 3 (Other indirect):** Emissions that are a consequence of your actions, which occur at sources which you do not own or control and which are not classed as scope 2 emissions. Included in this category is business travel, waste disposal, water consumption and purchased goods.

The Greenhouse Gas Protocol requires Scopes 1 and 2 emissions to be included in the organisation's carbon footprint. Scope 3 emissions may be included at the organisation's discretion. In the interest of consistency with methodology used in previous years, we have included the following Scope 3 emissions: water consumption and business travel.

We have used the 2012 Defra GHG conversion factors. Changes in the conversion figures from those used in 2011 to 2012 have been identified and, where relevant, have been explained in the footnotes.

TOTAL CO₂E EMISSIONS

	Tonnes CO ₂ e - 2008	Tonnes CO ₂ e - 2009	Tonnes CO ₂ e - 2010	Tonnes CO ₂ e - 2011	Tonnes CO ₂ e - 2012
Travel	4.71	3.01	2.56	2.73	2.77
Electricity	122.32	75.91	74.22	56.11	61.49
Gas	44.26	36.68	30.70	34.48	38.65
Water	2.07	2.51	2.37	2.45	2.07
TOTAL	173.36	118.10	109.85	95.76	104.98

Note that the totals in the table above do not agree with previous years' reporting due to changes in methodology or conversion factors which have been highlighted in the relevant sections below.

INTENSITY RATIOS

We've chosen to use g CO₂e per £ turnover and g CO₂e per visit to normalise our data and present a comparable intensity ratio.

	2008	2009	2010	2011	2012
Tonnes CO₂e	173.36	118.10	109.85	95.76	104.98
Turnover	£ 1,486,761	£ 1,556,193	£ 1,658,058	£ 1,826,303	£ 1,863,340
Visits	153,786	159,526	152,251	147,232	154,290
g CO₂e per £	116.60	75.89	66.25	52.43	56.34
g per visit	1,127.26	740.34	721.52	650.41	680.39

INPUTS (PROCUREMENT)

In this section we will consider all significant acquisitions (worth £500 or more) or any purchases with a notable sustainability element. In general, where this will not affect the quality of the product, we try to purchase reconditioned items to reduce the embedded carbon footprint of our supplies.

THE CASTLE CAFÉ

The Café is a crucial element of our sustainability policy because unlike some areas where we may be limited in our procurement choices (eg climbing walls) we have plenty of choice in the Café. Furthermore, sustainable food is something that affects everyone and through the café we hope to introduce, educate and convert more customers to the principles of sustainable food. A key step towards doing this was building a kitchen (2011) to process the food grown in our garden and reduce our reliance on pre-packaged food. We have struggled with making this work financially for the couple of years, but with the recruitment of an experienced, new chef in 2012 (Carolyn) we were able to improve the products and the overall financial viability of the café.

SUSTAIN URBAN FOOD WEEK

The Castle took part in Sustain's **Urban Food Week** (10-16 September) which celebrates cafes and restaurants in London that use London-grown food. Our Cafe had specials made with vegetables grown in the garden or from Growing Communities' new site in Dagenham. All our veg that week came from the London area!

http://www.sustainweb.org/ethicaleats/urban_food_week/

PRODUCTS & SUPPLIERS

We achieved a milestone in 2012 replacing all bought tray-bakes with homemade versions and adding a variety of cakes and scones to our menu. A large percentage of our hot meals, snacks, and puddings are vegan and often dictated by what produce is coming in from the garden, reflecting the seasonality of produce.

We continue to sell Castle water bottles instead of bottled water. A complete list of our suppliers and products, including any changes we've made is in **Appendix A – Café Suppliers**.

The (much shorter) list of products by the end of the year that were not organic are:

Innocent smoothies and juices
Burt's crisps
Eat Natural bars
Tyrrel's crisps

Sundried Tomatoes
Vegetable spread
Pulsin protein snacks

Some jam/chutneys
Some flours
Shaun's Nut bars

Many of these are still locally produced using natural ingredients though they aren't certifiably organic.

REFRIGERATOR

In 2011 we purchased a chest freezer for the new kitchen which we then adapted to use as a fridge (see 2011 ER). The fridge works well and efficiently, but the design was very inconvenient for the kitchen. We've moved it into the Café to store and sell drinks from and purchased a new refrigerator for the kitchen. The new kitchen fridge uses hydrocarbon as the refrigerant which does not contribute to depleting our ozone layer and runs very efficiently. Furthermore, by selling our drinks from the ex-freezer we were able to get rid of the inefficient display fridge unit.

THE CASTLE SHOP



The Castle shop continues to increase its stock of organic cotton clothing. In 2012 we introduced a new organic clothing line from Blurr clothing. "100% organic cotton grown through biologically based methods that have a low impact on the environment". **Blurr Clothing Label.**

More and more outdoor manufacturers are signing up to the **bluesign®** standard (www.bluesign.com), which we first reviewed in the 2011 Environmental Report. In

2012 we introduced the Mammut Infinity 9.5mm rope which has been bluesign certified. Mammut began working towards bluesign standard in February 2011 and converted all of their rope production to the bluesign standard by January 2012.

We also introduced the following products into our range of equipment:

- **Mammut Transformer 9.8mm rope** made from transfer yarns – high quality leftover yarns which would otherwise have been disposed of.
- **Mammut Transformer slings** (pictured right) are made of high-quality leftover yarn which is usually recycled, a process that uses energy. The sling is still as strong as an undyed sling; it just means specific colour requests cannot be accommodated.
- **Metolius Eco Chalk Ball** is a non-marking substitute for climbing chalk,



leaving no trace on the rock, allowing us to lessen our impact on the natural world. It is still very effective in absorbing excess moisture. Metolius is works with the US based Access Fund to help protect and preserve wild places.



Castle-made hand and lip balms introduced in December 2011 sold out immediately. A second batch made in 2012 has been selling very well. The balms are made from beeswax from our own bees and infused with herbs from the garden.

In our 2011 report we reported that Paul was investigating purchasing non-anodised hardware. DMM and Climbing Technology have confirmed that they won't produce non-anodised items. Paul is continuing on his quest to find a supplier of non-anodised hardware.

CLEANING AND MAINTENANCE

CLEANING

Our cleaners have introduced a new liquid enzyme spray which uses enzymes and proteins derived from vegetables and fruits to eliminate stains and odours. The spray is unscented, hypoallergenic, and all-natural. The packaging is also 100% recyclable. <http://www.naturessunshine.com/us/product/natures-fresh-enzyme-spray-22-fl-oz/sku-1549.aspx>

A list of our cleaning products is found in **Appendix B**

MAINTENANCE

Lighting: We replaced all the floodlights outside from 70w/150w halide and sodium lamps to 10w/30w/50w LED floodlights thus reducing maintenance and energy costs.

CLIMBING WALLS & CLIMBING EQUIPMENT

GYM

In December 2011, our Setting Manager Mike Langley led the development of a gym area above the Wave (as reported in 2011 Environmental Report). In the last report we outline the sustainable build elements of the Gym. This year, we can comment on the purchase of reconditioned, non-electrical cardio machines (rowing machines and an exercise bike). The Gym also features a selection of free weights.



HOLDS & VOLUMES

As they have have been for several years now, all of our climbing holds and volumes were made in Europe, reducing shipping and ensuring a high quality production with generally higher environmental and social standards. The holds we purchased in 2012 included:

- Holdz (UK)
- Core Climbing (UK)
- Beastmaker (UK)
- Revolution (Germany)
- Axis (Holland)
- Volx (France)

A number of new volumes were built and/or refurbished in-house. Old holds that are still in usable condition are donated or sold.

ROPES AND OTHER CLIMBING EQUIPMENT

Ropes: In 2012 we replaced 1650m of gym rope compared to 1100m in 2011. We continue to reuse retired ropes in the centre for safety cordons, teaching knots and more. We also donate ropes to organisations or individuals that use them for non-climbing purposes.

Bouldering Mats: We repaired a number of the crash mats around the centre, putting in replacement foam. The mats are designed so that the covers can be removed for repairs to be done to them. We replaced the crash mats under the panels with brand new, bright yellow mats, supplied by Holdz. The reason we chose bright yellow was so we could use any natural light, reflected off the mats to make the area seem brighter and reduce the requirement for artificial lighting. The new coloured mats will be rolled out to every bouldering area in the next few years. Holdz took away the old mats for recycling.

OTHER CENTRE EQUIPMENT

FURNITURE



We purchased 2 new office chairs for Reception from **ONCE**Environmental Office Furniture Solutions. Both chairs were old recycled office furniture which we had re-upholstered. <http://www.officeneedsonline.co.uk/>

We replaced 2 old sofas in 2012 with second-hand sofas from Gumtree.

IT: COMPUTERS AND PHONES

A key specification for the upgrade of our IT systems in 2011 was that we did not want to be replacing equipment on a regular basis. While most computers in a business environment are given a three year life expectancy, we have specified that we expected our hardware to last us up to 5 years with only minor repairs/upgrades required in this period. We will use this report to monitor this.

In 2012 we invested in software and development projects. In terms of hardware we purchased a new laptop for Steve Taylor (his old one was 7 years old), we replaced a broken hard drive and we purchased a new router. When purchasing the laptop, Steve's main criteria were reliability (a 4 year warranty was offered indicating that it was durable), energy efficiency and performance.

STATIONERY

Our annual stationery spend decreased by 53% over the previous year, but this was due to us not ordering pens. Our Reception Manager, Kerry Simmons, has been researching alternative products. We continue to use The Green Stationery Company (www.greenstat.co.uk) for most of our stationery.

We reviewed how we put up posters/notices in the centre. Previously we used glue dots, but we now use sellotape instead for several reasons. First, glue dots could not be removed easily or reused. Second, polypropylene film, which sellotape is made with, is considered a 'green plastic' because no harmful chemicals are used in the manufacturing process and it only produces CO₂ and H₂O when incinerated.

PUBLICATIONS

We continue our subscription to **Permaculture** magazine which we display in the café. We also distribute **Jellied Eel** and **Ethical Eats**- local sustainable food campaign magazines.

CLOTHING

We didn't purchase any staff t-shirts or hoodies in 2012.

OUTPUTS (WASTE)

The **North London Waste Authority** (NWLA) has used The Castle as a case study on waste reduction in their 'Guide to Businesses: Reduce Waste, Save Money' which is published on their website and handed out to businesses as helpful leaflet.

WASTE AUDITS

Previously, our waste audits were conducted sporadically. In 2012, we standardised our audit methodology. The first such audit was carried out by Juan Avendano and Douglas Duncan in November 2012. In addition to the key points below, we were able to refine our assumptions of the weight of our bins allowing us to report our waste more accurately.

AUDIT FINDINGS: KEY POINTS

- Top non-recyclable waste:
 1. Clothing
 2. Finger tape
 3. Duct tape
 4. Dust & Chalk from the vacuum cleaners
- Our Landfill bin contained non-Castle waste, most of which could have been recycled. This may have come from passer-bys or guests of the Pirates Playhouse.
- We found organic matter (tea bags, banana peels and cheese) from the café which should have been composted.

Recommendations:

- Ensure all staff, especially Café staff, have correct training on waste streaming.
- Change bins to differentiate waste streams more clearly.
- Ask staff to wash out their food containers so that they may be recycled.
- Add recycling bins to the changing rooms.

Methodology:

As a result of the waste audits, we are refining our assumptions. In the 2011 report we used an average weight of 40kg for our 240L landfill bins. The November 2012 audit found this to be 32.6kg¹. The auditors did not weigh our waste before sorting in the May 2013 audit. We will continue to refine the assumptions as we gather more data. We are not able to rely on the figures given to us by Bywaters, our waste carriers, as they have indicated an average of 100kg per bin which may be because average the weight of the whole collection round rather than individual collections. Greenerworld, our previous carriers, used 40kgs per 240L bin as an average.

LANDFILL WASTE

Our landfill waste figures have reduced significantly for a number of reasons:

¹ See 2012 (November) waste audit follow up report.

- Revised assumptions (see Waste Audits: Methodology above)
- We reduced the waste to landfill bin size from 1 x 1100L bin to 1 x 240L bin per week
- Following the November 2012 audit we have improved our bins and signs so that our staff and customers can sort their waste correctly.

To compare like-for-like, we have revised the weights and emissions factors with the most recent data.

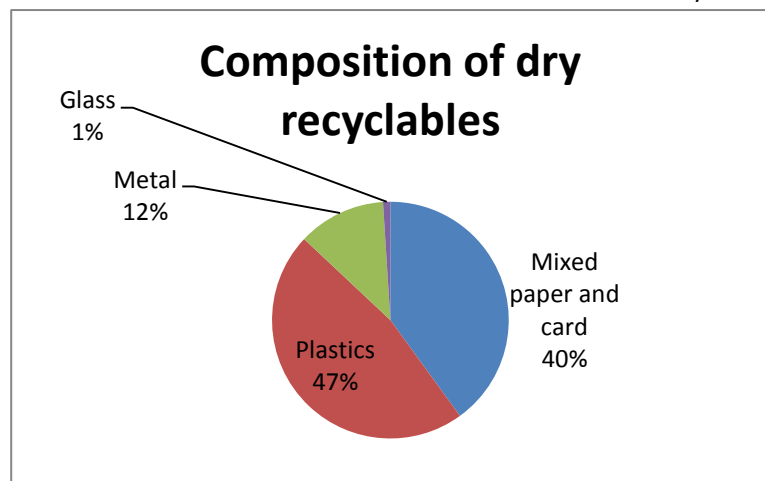
Year	Volume	Average load (kg)	Total weight (tonnes)	CO ₂ e conversion factor ²	Total tonnes CO ₂ e	Previously reported (tonnes CO ₂ e)
2012	54 x 240ltr	32.57	1.759	.199	0.35	n/a
2011	39 x 1100ltr 14 x 240ltr	80 32.57	3.58	.199	0.71	.732
2010	52 x 1100ltr	80	4.16	.199	0.83	.317
2009	90 x 1100ltr	80	7.2	.199	1.43	.341
2008	104 x 1100ltr	80	8.32	.199	1.66	.394

RECYCLING

Our skip suppliers (McGrath) have a Materials Recovery Facility (MRF) in Hackney and estimate that around 98% of the waste they collect is recycled³. We hired 2 skips from them in 2012, the same as 2011. These were usually filled by old building materials with an average 40kg per m3 of waste⁴.

Bywaters handle both our landfill and recycling waste. Cardboard is no longer collected separately and is included in the 'dry recycling' which is collected in 1100ltr bins. The chart below shows the breakdown of dry recyclables from the November 2012 audit. Note that the glass percentage does not include the glass in the dedicated glass bin. Glass is taken separately and is collected in a 240ltr bin. We also began providing a battery recycling point for our customers in 2012 and recycled 2 full, plastic storage boxes of batteries. So far these have not been weighed.

Using the latest emissions conversion factors we can compare the last three years on a like-for-like basis. This shows our emissions increasing, which correlates with the increased volume of recycling (and decrease in landfill).



² 2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting. Commercial and Industrial waste to landfill – 199 Gross kg CO₂e emitted per tonne of waste treated.

³ <http://www.mcgrathgroup.co.uk/home.html>

⁴ Using the same composition estimates as previous years (50% wood, 40% aggregate, 5% mixed commercial/industrial and 5% metals) and 2012 Closed Loop recycling figures from Defra (**Appendix C**) we estimate 13kg CO₂e per tonne of waste.

Year		Volume	Average load (kg)	Total weight (tonnes)	CO ₂ e conversion factor ⁵	Total tonnes CO ₂ e
2012	Dry recyclables	160 x 1100ltr	75 ⁶	12.00	.021	.252
	Glass	14 x 240ltr	100	1.40	.021	.029
	Skip	12.24 m3	40 (per m3)	0.49	.013	.006
	TOTAL			13.89		0.287
2011	Mixed recycling			12.24	.021	.257
	Skip	12.24 m3	40 (per m3)	0.49	.013	.006
	TOTAL			12.73		.263
2010	Mixed recycling			10.07	.021	.211
	Skip			.979	.013	.013
	TOTAL			11.05		.224

COMPOSTING

Our Ridan composter produced a total of 2.5 tonnes of compost in 2012 (2 tonnes in 2011). After using estimates for several years, we are now keeping track of the composting by measuring the amount produced (1 bay = 1 tonne). As we now make all our own dishes, cakes and tray bakes, we expected the amount of food waste being composted to rise. The compost is used in the garden on our fruit and vegetable plots, thus closing a loop and putting valuable nutrients back into our soil. Had we put this kitchen waste to landfill we would have produced 1.43 tonnes CO₂e (compared to just .015 tonnes by composting).

Composting	tonnes	CO ₂ e ⁷	tonnes CO ₂ e
2012 Total	2.5	.006	.015 tonnes CO₂e
2011 total	2.0	.006	.012 tonnes CO₂e
2010 total	2.25	.006	.014 tonnes CO₂e

Emission factors for waste disposal of organic food and drink waste by composting method have changed significantly between 2010 and 2012 - decreasing from .030 CO₂e per tonne to .006 CO₂e per tonne. The table above shows a like for like comparison for the past three years using the latest conversion factors.

OTHER

We sold the café counter top display fridge on Ebay.

WASTE SUMMARY

⁵ 2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting.

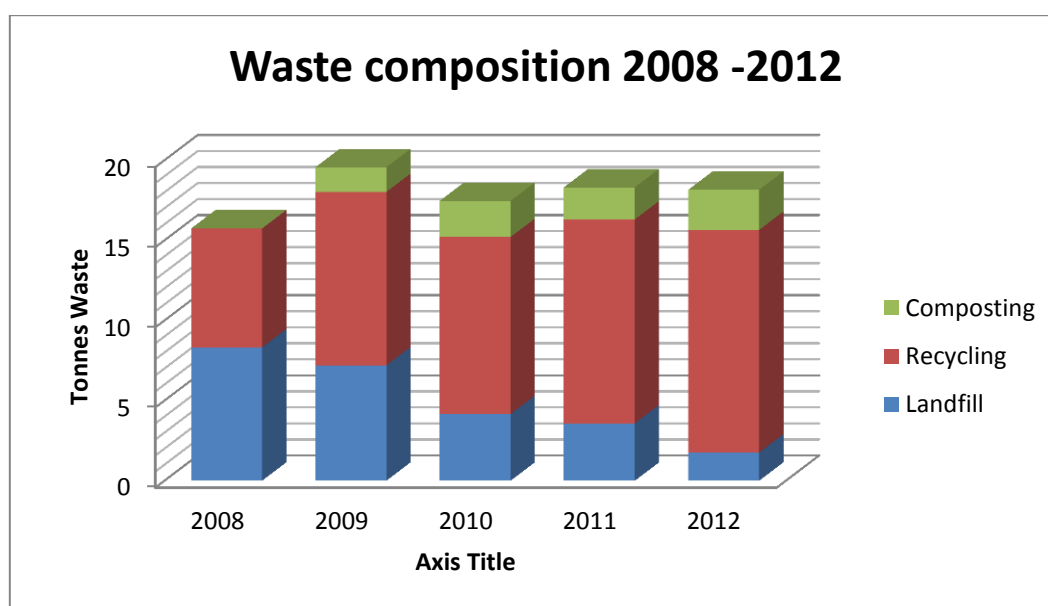
⁶ Bywaters estimate: 75kg per 1100Ltr dry recyclables; 100kg per 240ltr glass.

⁷ DEFRA figures GHG Conversion factors 2012

The table below summarises our total amount of waste. We have recalculated the previous years' figures to provide a like-for-like comparison.

Waste Type	Amount (tonnes)	Tonnes CO ₂ e
Landfill	1.759	.35
Recycling	13.89	.287
Composting	2.5	.015
2012 total	18.149	0.652
2011 total	18.31	0.985
2010 total	17.46	1.89

The following chart shows how our waste composition has changed over the past five years. It is encouraging to see that the waste to landfill has decreased considerably from 53% of our waste in 2008 to just 10% in 2013.



TRANSPORTATION

For the purposes of this report we have included all transport costs that we incur directly such as Steve's trips from Buxton and any other business trips. For consistency with previous years, we also include the travel expenses from our guest setters. We have not included personal commuting, customer transport and deliveries. The Castle participates in the Cycle to Work scheme (see Employee Incentives).

BUSINESS TRAVEL

We travelled more in 2012 compared to travel in 2011, with a larger distance travelled by both car and train, thus increasing our carbon emissions. This is likely due to an increase in the amount of mileage claimed by guest setters. While train travel accounts for 75% of our distance, it only accounts for 50% of our emissions.

Method of travel	Distance in km /(2011 figures)	Total CO ₂ e ⁸
Train	24,272 / (19,984)	1.41
Underground	31.2 / (296.7)	0.002
Bus	0 / (36.5)	0

⁸ Based on 2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting – Annex 6 - Passenger Transport Conversion Tables

Car	8,082.56 / (7,961.9)	1.36
2012 Totals	32,385.76 km	2.77 tonnes

STAFF TRIPS PAID FOR BY CASTLE

There were no staff trips in 2012.

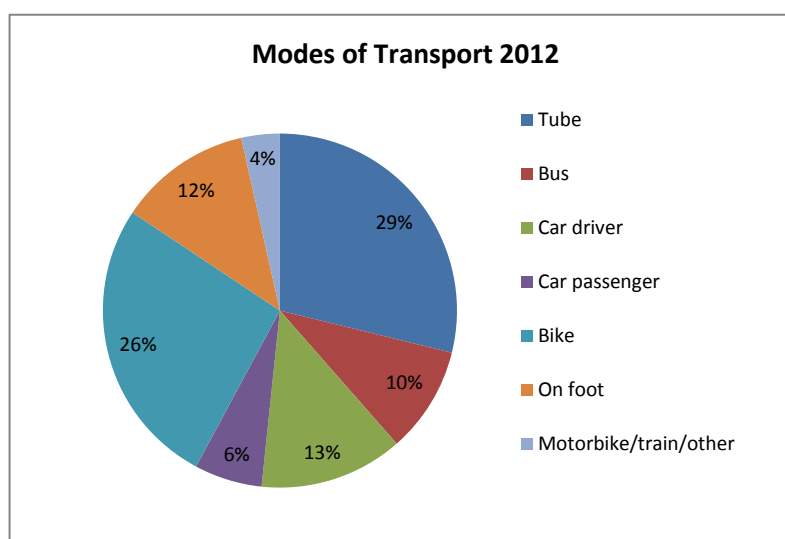
SUMMARY OF TRAVEL

	km			CO2e		
	business travel	staff trips	total	business travel	staff trips	total
2008	18,853.40	25,616.00	44,469.40	1.80	2.91	4.71
2009	24,999.30	2,654.00	27,653.30	2.29	0.72	3.01
2010	33,534.20	1,281.00	34,815.20	2.27	0.29	2.56
2011	28,861.00	581.50	29,442.50	2.64	0.09	2.73
2012	32,385.76	-	32,385.76	2.77	0.00	2.77

Note: The higher staff trip figure in 2008 was due to a trip to Catalunya.

CUSTOMER MODES OF TRANSPORT

We do not include customer travel in our carbon footprint calculations, but we conduct a survey every year in March to see how our customers travel to the centre and use this information to inform our own decisions.



We had fewer people complete the survey this year than previously- we will need to improve our data collection in the next survey. Figures on transport mode haven't changed much in the past 3 years, with the majority of people getting the tube or cycling to The Castle.

ENERGY & RESOURCE CONSUMPTION

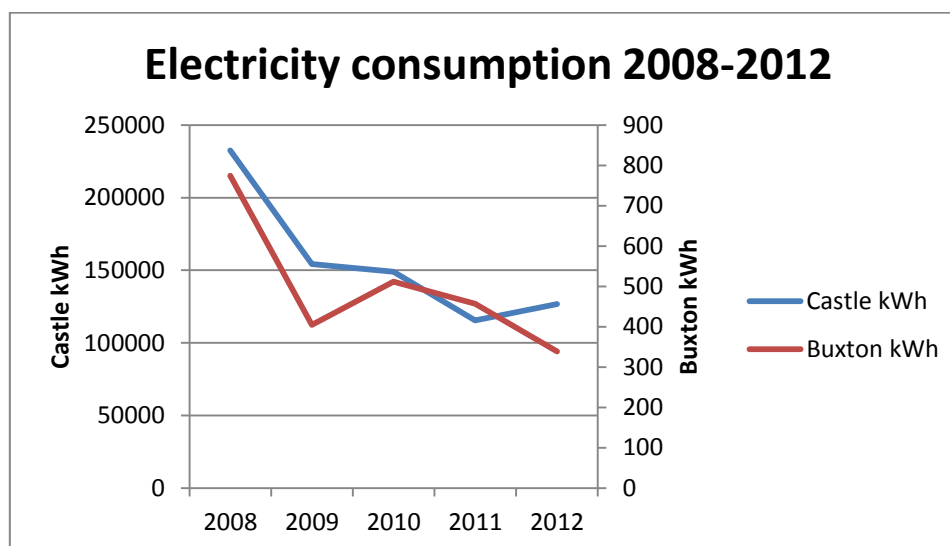
ELECTRICITY

We saw a 9% increase in consumption compared with 2011. This may be due to the harsher and longer winter we suffered in 2012. We had purchased an electricity monitoring system which was installed on all our distribution boards, but do not yet have reliable data for 2012.

We continue to use Green Energy UK (www.greenenergy.uk.com) to supply both The Castle and the Buxton office. We use their Deep Green tariff which has no CO₂ emissions (though GHG Protocol requires national standard emissions to be reported unless the energy is generated on-site).

There have been significant changes to the government's methodology in 2013 including how imported and autogenerated electricity is accounted for. Also companies had to recalculate their emissions figures each year as conversion factors for prior years changed on a 5 year rolling average basis, from 2013 this will no longer be the case. The updated table using 2013 guidance and latest conversion factors is below.

	Castle kWh	Buxton kWh	Total kWh	Conversion factor (kg/CO ₂ e)	tonnes CO ₂ e
2008	232492	774	233266	0.52439	122.32
2009	154289	405	154694	0.49068	75.91
2010	149014	512	149526	0.49636	74.22
2011	115568	457	116025	0.48357	56.11
2012	126819	339	127158	0.48357 ⁹	61.49



GAS

⁹ Conversion factor for 2012 electricity consumption is not yet available so the figure for 2011 has been used.

We use burn natural gas on site in our heaters and boilers for hot water and heating.

	Castle kWh	Buxton kWh	Total kWh	Conversion factor (kg/CO ₂ e)	tonnes CO ₂ e
2008	232492	6727	239219	0.185	44.26
2009	190456	6727	197183	0.186	36.68
2010	159229	6727	165956	0.185	30.70
2011	181068	6727	187795	0.1836	34.48
2012	201954	6727	191710	0.18521	35.51

Our gas consumption always peaks in the winter months as we use the gas heaters, and as mentioned previously, we have had a very long cold spell this winter which has contributed enormously to the big increase in this year's consumption. We do not anticipate that this will decrease until we complete the final phase of our development which will insulate the building.

WATER

A summary of our water supply and treatment for both Castle and Buxton sites is below. Note that the conversion factors changed in 2009 and again in 2010.

	Castle (m3)	Buxton (m3)	Total (m3)	Total (million litres)	Conversion factor (kg/CO ₂ e)	tonnes CO ₂ e	Total CO ₂ e
2008 (supply)	2106	29	2135	2.135	0.276	0.59	2.07
2008 (waste)	2106	29	2135	2.135	0.693	1.48	
2009 (supply)	2563	29	2592	2.592	0.276	0.72	2.51
2009 (waste)	2563	29	2592	2.592	0.693	1.80	
2010 (supply)	2252	29	2281	2.281	0.34	0.78	2.37
2010 (waste)	2252	29	2281	2.281	0.7	1.60	
2011 (supply)	2293	29	2322	2.322	0.344	0.80	2.45
2011 (waste)	2293	29	2322	2.322	0.709	1.65	
2012 (supply)	1934	29	1963	1.963	0.344	0.68	2.07
2012 (waste)	1934	29	1963	1.963	0.709	1.39	

RAINWATER HARVESTING

We installed 11 x 1000ltr rainwater tanks in the centre for rainwater harvesting: 5 in the lead area and 6 underneath the Comp Wall. There are also 4000ltr of old tanks behind The Wave that have been converted into rainwater storage. The tanks feed into the porous water pipes and taps located around the site. The porous pipes have timers attached so that we don't forget to turn them off. At the moment we still have 2 taps in the garden connected to the mains water. Our aim is to replace all the mains water taps and only use the rainwater for the garden.

At the moment we have no way of telling how much water used in the garden comes from mains water or the harvesting tanks. A recommendation that has come out of this report is to have flow meters attached to all the taps in the garden to measure the use of the water.

GREYWATER RECYCLING

As reported in the 2011 Environmental Report, the greywater from the men's changing rooms (from showers and taps) is filtered through the swale to help with the irrigation of the garden and reduce our waste water treatment needs. Unfortunately we do not have a means to record how much greywater is diverted from treatment so our water bill shows the same amount for supply and waste.

GARDEN

The Garden is the key piece to our sustainability policy. With each passing year the garden matures, producing more for the café and expanding what is possible for us. In 2012 we made a number of improvements and paved the way for greater developments in 2013. Notable changes include:

- Improvements to the swale so that water flows correctly;
- Production of hand and lip balms made with beeswax from our bees and herbs;
- Extending the raised veg beds to grow more produce for the Café;
- Development of more herb beds and weekly harvests ensuring we have both fresh herbs throughout the growing season and dried herbs for the winter. Herbs are used in the kitchen and in our teas;
- New plants planted in forest garden – jasmine, honeysuckle and hops, to climb the back fence; and
- Christmas Market garden gift bags made by staff and volunteers sold in the Café. These included:
 - Selection of culinary herb jars in a gift box
 - Lavender and hop pillows
 - Lavender pouches
 - Bath infusions
 - Selection of tea blends - yarrow, spearmint & elderflower AND rose, calendula & lavender

In July, Frank Agnew from Cob in the Community (www.cobinthecommunity.org) ran a 2 day course on building a **cob oven** (pictured right). Using clay from the garden the attendees helped with the cob mixing and building the oven. The plinth was built from bricks and wood left over from previous building works. A temporary shelter for the cob oven was erected using reclaimed wood, old climbing ropes and a tarp. Barry Arundel and Rosa Gonzalez researched and designed a roundhouse (pictured right) to go over the cob oven. The shelter will not only protect the cob oven, but will also be a place for people to sit and relax, a meeting space and a temporary bar/café during Castle events. The shelter will be made from sweet chestnut and have a grass roof.



HARVEST

The weather wasn't too good for growing in 2012 as the summer was very wet with not much sun. Cucumbers, tomatoes and courgettes all suffered this year and the winter squashes and peppers suffered a lot of slug and snail damage. Also, a bad summer, coupled with the problem of squirrels attacking the fruit trees in autumn meant we didn't get a good crop from the fruit trees, apart from some pears. However, the trees are young and will continue to produce more fruit each year.

It wasn't all doom and gloom though, and even with a slow start for the summer vegetables, all the greens did really well and we had a reliable crop of chard, beetroot, salad leaves and spring onions. We also saw a good harvest of berries this year- strawberries, tayberries, loganberries, raspberries, blackberries and Japanese wineberries- most of which have been used in the cakes and jams.

We began weighing the produce harvested for the Castle Café and between January and December 2012 we harvested **428.33kilos**. A full list of all the produce harvested can be found in **Appendix D**.

MEDIA AND EVENTS

Ida, our Garden Manager did an interview with **BBC London radio** to talk about Urban Food Week. She mainly talked about her role at the Castle and what we are doing in terms of our environmental policy.

GARDEN WORKSHOPS AND EVENTS

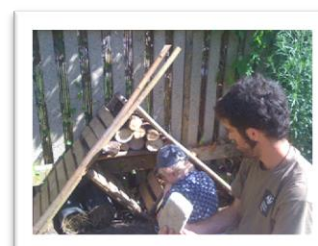
Scarecrow & Wildlife Habitat Workshop

Fri 17th August, we held a family/child friendly workday in garden and invited children from the Castle membership and handed out leaflets in the local park to encourage the local community to come along. The day was a scarecrow and wildlife habitat making day, ran by Ida and Min and supported by the local Wildlife Trust at East Reservoir who came along with their tools and materials and helped make new bug habitats and bird boxes.

Min and Christina led the scarecrow making workshop, building a large scarecrow with the kids and helping them to make mini scarecrows out of recycled wooden cutlery from the Castle Garden party!

Sculpture Workshop

In October Min and Christina held a sculpture making day in the garden to use recycled materials such as old bike parts and climbing holds. Again they advertised around the local area and encouraged local kids to come along and have a go. The event proved to be very successful.



CAPITAL GROWTH

Community Garden Projects Tour

Capital Growth included the Castle garden in their Community Garden Projects Tour in February 2012. The Castle opened its doors to CG and the public as they made a tour of local food garden spaces to show people what is possible in the centre of London.



Food Growing Garden Display

Capital Growth held a food growing garden display on 21st April in Trafalgar Square, as part of the Mayor of London's St Georges day celebration at which, Nick and Ida (from the Castle Garden) provided herbs from our garden and helped out with the herbal display.

Edible Open Gardens Day.

In September we took part in the Edible Open Gardens Day where gardens across the city open their gates up to the public for the day. On the day visitors could take part in a sculpture workshop using scrap and old bike parts and enjoy home-made pizzas cooked in our new cob oven. The Edible Gardens Open events are part of **The Big Dig**; a project funded by the Cabinet Office's Social Action Fund and coordinated by Sustain.

http://www.bigdig.org.uk/press/31_08_2012/

CASTLE EVENTS

At all of our events we choose our entertainment and catering carefully to keep waste to a minimum and source our supplies responsibly.

GARDEN PARTY – 5TH AUGUST

The Garden Party was a much quieter affair this year, due to the fact it was in the summer holidays and the weather was very wet. We had a BBQ, music entertainment and dyno competition, plus decorative bunting made from old mats. This year we also had an indoor climbing competition to launch **Bloctest**.

Cob in the Community made a mini-version of our pizza oven with the help of party goers, to give them an idea of the process involved. Many of the kids and parents joined in mixing straw and sand with their bare feet. We fired up the cob oven for the garden party and sold homemade, wood fired pizzas.



Growing Communities (www.growingcommunities.org) joined in, bringing their Seasonal Food Tasters Tour to the garden. Growing Communities were promoting their box scheme by giving people a chance to try dishes made from locally grown, fresh seasonal ingredients you would get in your fruit & veg boxes.



Nick Quinn, our herb specialist invited some of his colleagues to come and teach people about the herbs found in our garden and what they can be used for. This included a herbalist walk and a chance to try different tea infusions.



At the finish we only ½ bag of rubbish to go to landfill, mainly from items brought in from outside the centre by customers. Everything else was recycled, including the wooden forks which were washed and given to the garden to use as plant labels.

LA SPORTIVA PARTY – 24TH NOVEMBER



In November we hosted La Sportiva's Climbing Party worldwide tour. The event combined climbing, lectures, music, food and disco. It was a huge success, attended by a lot of climbers and customers. The catering was finger food prepared by Hackney Growers Kitchen using local, organic, fresh produce. Having finger food meant no plates or cutlery were used, just napkins, which can be composted very easily. All the drinks served- including beer, spirits and cider- were organic.

BONFIRE NIGHT – 2ND NOVEMBER

Ida and Min ran a bonfire night event with a garden work/fun day throughout the day and bonfire in the evening. The daytime activities included making sculptures/decorations for the garden out of recycled materials, making mini-wicker men and a giant one for the bonfire using spare bits of wood and material and building the bonfire. In the evening, the Castle provided wood fired pizzas and drinks for sale. The event attracted a fair number from the local community as well as climbers.

EMPLOYEE INCENTIVES

ECO-GRANTS

The Castle Eco-Grants scheme gives staff the financial freedom to volunteer for environmental projects, taking time off from their jobs whilst the Castle pays a stipend to help cover their salary whilst they're away. Applications are received twice per year and reviewed by a panel of peers. Three grants were awarded in 2012:

- **Jack Cox** –A placement working with Organic Lea food growers co-operative in Chingford creating and developing productive growing sites for edible fungi.
- **Johanna Wadsley** - A post-doctoral social science expedition (by sea-kayak) to observe, document and publicise the impact of industrial demand for seaweed (used in health food & pharmaceuticals production) on the marine environment and socio-economic conditions of the Sangihe Archipelago, Indonesia.
- **Nick Quinn**- WOOF'ing at North Down Orchard (Basingstoke) to learn key aspects of winter organic growing for large scale organic box scheme fruit & vegetable production.

CYCLE TO WORK SCHEME

3 members of staff have taken advantage of the Cycle to Work scheme to purchase new bikes.

ECO-DAYS

In total 6 days holiday were claimed by staff who chose to use trains and buses to reach their holiday destinations rather than fly.

RESEARCH & DEVELOPMENT

PROPERTY DEVELOPMENT

After years of planning, we received permission to further develop the Castle. We began enabling works in the Engine House in October 2012. We now have planning application for the following developments:

- New bouldering wall on the mezzanine floor above the café
- New stairs (and new fire exit) in the Engine House
- Improvements to the roof to include skylights and solar panels
- Conservatory and Greenhouse
- New lead climbing and top roping walls in the old pumping wells
- New bouldering and training rooms in the old vaults
- Additional mezzanine seating in the Café
- Outdoor boulder field
- Additional lockers above the Catacomb/Men's changing area
- Refurbishing the Men's changing area to include unisex composting toilets
- Air source heat pumps to replace gas heating

In addition, we are replacing the Featured Bouldering Wall (to be recycled in the Boulder Field) and refurbishing the Tall Walls area.

One of the action points in our 2012 updated Sustainability Action Plan was to investigate how we could produce our own electricity. We collected one years' worth of data from the weather monitors and this has been fed into the development plans. The outcome is that wind power is not feasible for the site but solar energy would be a good option as we have a large expanse of roof to cover with PV panels.

AWARDS

We apply for relevant awards to keep us motivated and to show that our sustainability policy isn't just greenwash. Awards that involve a site visit or auditing are particularly rewarding to us.

SUSTAINABLE CITY AWARDS 2011/12

We applied in November 2011 for the Sustainable City Awards 2011/2012. The categories we entered were; Resource Conservation; Responsible Waste Management; Sustainable Building; Sustainable Procurement. The awards ceremony took place on 1st March at Mansion House and we were very pleased to come away with 2 awards for Sustainable Building and Sustainable Procurement. We were also highly commended for our work in Resource Conservation and Responsible Waste Management.

City of London Corporation case study: How and why The Castle is tackling climate change. <http://tinyurl.com/nudhm3o>



CAPITAL GROWTH 'GROW FOR GOLD' COMPETITION

The Castle Garden entered into the 2012 Grow for Gold competition, run by Capital Growth, coming second in our chosen category (Inspiring Food Gardens). We detailed how the garden relates to the Castle's sustainability policy and how it ties into the business through supplying the café, involving climbers and staff, providing mini-plots for staff and the local community, and encouraging volunteers to learn about permaculture practices through work days and events.

http://www.capitalgrowth.org/our_support/growforgold/

MAYOR OF LONDON'S GREEN PROCUREMENT CODE

In previous years we had signed up to the Mayor of London's Green Procurement Code. LRS Consultancy, who deliver support for the Code, stopped receiving public funding for the Code in 2011. The Code is now supported by subscription from members. They continue to offer levels of achievement (Gold, Silver, Bronze) determined by an annual audit though they no longer run an annual awards ceremony. We decided that we did not want to pay for this service in 2012, though we may review the decision in future years.

CONCLUSION – ACTION POINTS

In 2013 we will finally be able to start the developments of The Castle which, while generating extra business for the climbing centre, café and shop will also be designed to help reduce our environmental impact. We will also work on improving our environmental reporting by collating data throughout the year so that we can publish our Environmental Report earlier, using our electricity monitoring system and achieving consistency in our waste audits. Earlier this year (2013) we clarified our Vision Statement and our key values which are Quality, Sustainability and Integrity. We've set organisational targets for each goal and asked each department to create their own objectives to help us reach these goals. We will continue to apply for various awards as a way of auditing our performance and proving that our policy isn't just greenwash. Generally, we aim to continue to integrate sustainability into all of our operations so that we can continue to make progress towards our ultimate goals of being carbon neutral, zero waste to landfill and water neutral by 2015.

APPENDIX A – CAFÉ SUPPLIES

Supplier	Item Description	Organic?	Fairtrade?	Notes / Other?
Cafe connections	Cloths, scourers, napkins, paper bags, gloves, plasters			Recycled bleach free napkins
Futures Supplies	Ecover products – handwash/dishwasher/ washing up liquid			Environmentally friendly cleaning products
PD Dairy / Moreton Dairy	Milk	X		Reusable glass bottles and local
Dorset County Foods Ltd	Bacon/Ham	X		Local
Taste of Sicily	Sundried Tomatoes	x		
Espresso Warehouse	Abyss Chocolate Powder	X	X	
Infinity	Muesli – stopped selling			
	Dried fruits/nuts	X (some organic)		
	Bombay Mix – stopped selling			
	Beans & Pulses	X		
	Quinoa/Bulghar/Couscous	X	x	
	Pasta	x		
	Clipper Tea	X		
	Pesto	x		vegan
	Divine Chocolate Bars	x		
	Cooking Chocolate	x		
	Coconut – desiccated & milk	x		
	Golden Syrup	x		
	Jams			Mostly organic
	Soya Cream	x		
	Sunflower Oil	x		
	Vegetable Spread			unhydrogenated
	Table Sauces	x		Mustard/brown sauce/mayonnaise/tom ketchup
	Raw Forest Honey	x		
	Organic Demerara Sugar	x		
	Soya Milk	x		
	Flour			Some organic
	Ecover products			Environmentally friendly cleaning products
Halladey & sons	Red Bull	Stopped selling all these products at the end of 2012.		
	Snickers, Twix, Mars, Starburst			
JDs Foods Group	Innocent smoothies and juices			
	Burts crisps			Made in Devon
Marigold Health Foods	Tyrrels crisps			Local and natural
	Eat Natural bars			Local and natural
	Pulsin protein snacks			Made in Gloucestershire
	Coffee Beans	X	X	
	Organic Welsh Butter	X		
	Mozzarella, Brie & Cheddar	X		

Supplier	Item Description	Organic?	Fairtrade?	Notes / Other?
	Biona Baked Beans	x		
	Whole Earth Drinks	x		
Shaun's Bars	Nut bars			Not organic but no palm oil or artificial additives. Locally produced
Celtic Bakers Ltd	Bread	X	Stopped selling all these products at the end of 2012.	
	Flapjacks	X		
	Brownies	X		
Sainsbury's	Tuna			Line caught tuna – most sustainable
Langridge Organic Products Ltd	veg	x		From Feb 2011
Torq	Energy drink powder			Produced in the UK.
Castle Garden	Veg, Salad, Fruit & Herbs	X		The majority of our salad comes from our own garden. Plus a good variety of veg and summer berries. We also use our own home-grown herbs to make natural herbal teas
Growing Communities	Salad & Veg	X		Not a supplier but we often take excess salad from them that they cannot sell
Suma Wholefoods	Clipper Instant Coffee	X		
	Golden Syrup	X		
	Chopped Toms	X		
	Sunflower Spread	X		

APPENDIX B – CLEANING SUPPLIES

Product	Qty	2012	2011	2010
Toilet rolls (6 jumbo rolls per box)	rolls	664	660	654
Blue Roll (6 rolls per case)	cases	24 cases	12 cases	20
Bio hand soap (5 litres)	litres	240	190	210
Barrier hand cream (5 litres)	litres	25	40	25
Refuse bags (box)	boxes	9	7	7
Swing Bin Liners (box)	boxes	1	1	
Eco Cube (box of 50 cubes)	cubes	400 cubes	400	400
Bio Heavy Duty Cleaner (5 litres)	litres	100 litres	20	40
Drain solution (5 litres)	litres	0	10	10
Acid descaler (5 litres)	litres	10 litres	10	20
Prochem Odour Fresh (deodoriser) (5 litres)	litres	45 litres		

Viro-sol Cleaner*	litres	30 litres		
Selchem dks Odour Control Fluid (5 litres)**	litres	20 litres		
Enzyme Liquid Spray (1 litre)***	litres	3 litres		
Tea-towel cleaning		Once a month	Once a month	Once a month

* Viro-Sol - A blend of naturally derived citrus solvents

** Food grade ingredients ensure low toxicity

***Contains plant-derived enzymes. Biodegradable. Features 100% recyclable plastics and packaging

APPENDIX C – WASTE EMISSIONS CONVERSION FACTORS

The following conversion table is from the **2012 Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting**. The table below shows the 2012 conversion factors used in the previous report.

Scope 3 ²				
GHG Protocol Scope 3 Category 5, 12				
	Recycling			
	Open Loop ^{3, 6}	Closed Loop ³	Composting	Landfill
Commercial and industrial waste, average	1	1		199
Aggregates (Rubble)	1	1		
Construction, Demolition and Excavation: Metals		1		
Commercial and industrial waste, average		21		
Wood		21		
Organic Waste: Food and Drink Waste	21	21	6	

APPENDIX D – GARDEN PRODUCE

Below is a list of produce harvested from our garden in 2012

Produce	Produce	Herbs (for teas - both fresh and dried)
Green leaf salads	Kale	Mint
Tomatoes	Potatoes	Lemon Verbena
Cucumbers	Broad / French beans	Fennel
Squashes	Spring Onions	Chamomile
Peppers	Peas	Lemon Balm
Onions	Artichokes	Nettles
Garlic		Jasmine
Carrot	Fruit	Honeysuckle
Beetroot	Blackberries	Hops
Chard	Rhubarb	Elderflower
Sweetcorn	Strawberries	Marjoram
Courgettes	Raspberries	Coriander
French Beans (purple & yellow)	Tayberries	Parsley

Cabbage	Loganberries	Lavender
Chillis	Japanese Wineberries	Sweet Cicily
Broccolli	Pears	Oregano
Cauliflower		Thyme
Parsnips		Yarrow
Celery		Calendula
		Rose