

# The Castle Climbing Centre Annual Environmental Report 2008

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## Executive Summary

This is the first Annual Environmental Report of High Performance Sports Ltd, trading as The Castle Climbing Centre and fulfils our obligations as set out in our Environmental Policy (May 2009). The purpose of the report is to analyse our environmental impact by looking at the inputs, outputs and other relevant factors in running The Castle for the period between January and December 2008. One of the outcomes of this exercise is determining our carbon footprint. This has given us a clear target for reduction.

The first section of this report outlines our organisational boundaries and explains our methodology so that we can be consistent in future reporting. We calculated our carbon footprint using The Carbon Trust's footprint calculator. **In 2008 we were directly responsible for 136.79 tonnes of CO<sub>2</sub>e (includes other greenhouse gases).** Most of this is due to our electricity and gas consumption. This is the equivalent of 48.7 round-trip flights from London to Sydney.<sup>1</sup> It would take 137 trees 100 years to absorb this much carbon.<sup>2</sup>

To assess the overall impact of the centre we needed to look beyond our carbon footprint, so we also reported on the inputs and outputs of the centre. We analysed the inputs by department: Cafe, Cleaning, Maintenance, Assets (climbing walls, holds, office equipment), Ropes and Climbing Equipment and Stationery. The most significant development in 2008 is that we built some new climbing walls and extended and modified some existing lines.

Our output is all of our waste. We did not conduct any waste audits in 2008, so most of our findings are based on a waste audit conducted in 2009, but we have no reason to believe that there are material changes. In 2008 we had the facility to recycle cardboard, paper, plastics and glass. Our waste audit has shown us that the rubbish was not being sorted out properly by our staff and customers and that nearly 80% of our waste could have been recycled. In total we were responsible for 11.821 tonnes of waste (43% landfill, 57% recycling).

The Castle is not a travel intensive business, logging 18,853 km for business purposes (70% train, 30% by car). We have also included our staff trips in our carbon footprint. While most of the subsidised trips were in the UK, we did organise two trips to Climb Catalunya in Spain. This trip alone had a footprint of 2.16 tonnes CO<sub>2</sub>e.

Our main impact came from our consumption of Energy & Resources (95% of our carbon footprint). In 2008 we used 160,416 kWh of electricity. One of the first things that we did when we began considering our sustainability was to switch to a green energy supplier. In November 2008, we moved to the Deep Green tariff with Green Energy UK. We consumed 239,219 kWh of gas on our sites for heating.

This report ends with conclusions drawn from the findings of the report. These include suggestions for improvements such as a stronger procurement policy that takes in to account packaging and disposability, origin, toxicity, materials and manufacturing processes. The 2008 Environmental Report serves as a good baseline assessment of what our impact is because we did not begin making a conscious effort to reduce our impact until the end of 2008.

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<sup>1</sup> Based on DEFRA GHG conversion factor of 82.7g CO<sub>2</sub>e per passenger km for a long haul flight in economy. Flight distance: 17,013 km each way. The carbon footprint t of one return flight (direct) is 2.81 tonnes CO<sub>2</sub>e. Note that some figures include radiative forcing (eg [www.carbonfootprint.com](http://www.carbonfootprint.com)) include radiative forcing and this would bring the amount up to 5.83 tonnes CO<sub>2</sub>e per return trip.

<sup>2</sup> Source: <http://www.carbonfootprint.com> On average, one broad leaf tree will absorb in the region of 1 tonne of carbon dioxide during its full life-time (approximately 100 years).

# Carbon Footprint

## Organisational Boundaries

The scope of this report is the business that goes on at The Castle Climbing Centre and in the Buxton office on behalf of High Performance Sports Ltd. This includes The Castle Cafe, but does not include separate companies that may operate within the centre such as Urban Rock, Bikemech, Dragon, TAG and Geckos.

## Scope for CO<sub>2</sub>e emissions

The Carbon Trust uses the following classification for calculating a carbon footprint:

Scope 1 emissions – Emissions produced on-site (e.g. gas consumption, manufacturing)

Scope 2 emissions – Emissions that the company is directly responsible for, though they were released off-site (e.g. electricity, water)

Scope 3 emissions – Emissions that we are indirectly responsible for (e.g. purchasing finished goods, waste, customer travel).

For the purpose of calculating our carbon emissions we have included all Scope 1 and Scope 2 emissions and travel directly associated with the business. As a general rule Scope 3 emissions are not counted because one organisation's Scope 3 emissions are another organisation's Scope 1 or 2 emissions, but they may be included in an Environmental Report.

Our Scope 1 and 2 emissions consist of:

- Energy consumption
- Water usage/treatment
- Travel for business use and staff trips

## Methodology

To determine our carbon footprint we have used the Carbon Trust footprint calculator where possible. This uses the Defra GHG conversion factors. Where data has been unavailable we have used the Defra figures directly from the "2009 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting: Methodology Paper for Emission Factors" October 2009.

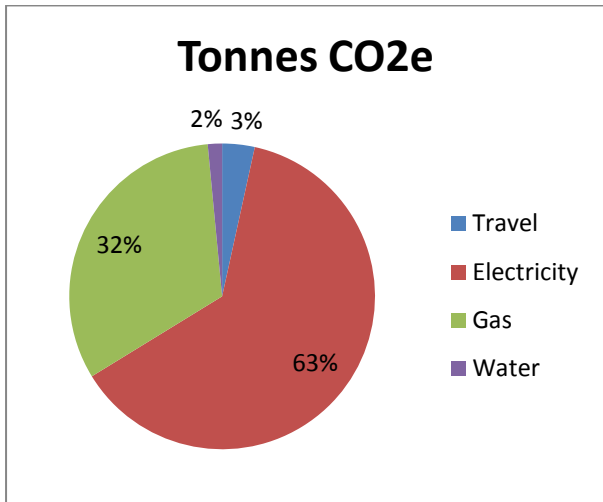
## Total CO<sub>2</sub>e Emissions

	CO <sub>2</sub> e
Total emissions	136.79 tonnes
Per visit <sup>3</sup>	889g
Per staff member <sup>4</sup>	2.63 tonnes
Per square meter (2000 m <sup>2</sup> )	0.068 tonnes
Per square meter climbing area (1500 m <sup>2</sup> )	0.091 tonnes

	Tonnes CO <sub>2</sub> e
Travel	4.73
Electricity	85.73
Gas	44.26
Water	2.07
<b>TOTAL</b>	<b>136.79</b>

<sup>3</sup> 153,786 total visits in 2008.

<sup>4</sup> 52 staff members (PAYE, freelance and Cafe) at December 2008.



## Inputs: Products purchased

### Café

In 2008 we invested in some improvements to the cafe, but we did not change the menu substantially to reflect any commitment to sustainability. Only a few items on our menu were Organic or Fairtrade. Our food and consumables were supplied by 9 different suppliers in addition to the local shops and supermarkets. As a result this serves as a good baseline to judge our improvement in this area in the following years.

### Cleaning

The Castle is cleaned 6 days per week (twice on Saturdays) by a team of 2-3 people from Master Cleaners. They are responsible for the contracts for monthly sanitary bin emptying and the linen towel service (discontinued April 2009). From September 2008 they also began a monthly hygiene treatment for the urinals. Master Cleaners also provide us with our cleaning supplies. We were not supplied with ecological cleaning products.

### Maintenance

We employ one person full-time to head the maintenance department. He, in turn, employs assistants to help as needed. Maintenance also includes pest control and our alarm maintenance. Our garden maintenance also falls within this budget.

## Assets (phones/computer/IT, walls/holds/mats)

### *Climbing walls and centre equipment*

In 2008 our major expenses included re-building the downstairs panels (bouldering) and extending walls 0-3 upstairs. In response to these new walls and in preparation for the new Arch to be built in the upstairs lead area we purchased new climbing holds (132 sets) and equipment for the walls. The climbing holds came from 4 different companies and were manufactured in China, Bulgaria, Slovenia and the UK.

### *Office equipment and computers*

We made some major changes to our IT structure in 2008, pushed by our IT Manager. We invested in a VoIP phone system and had to upgrade our internet connections to SDSL and ADSL accordingly. We also got involved in researching and purchasing a new Reception system. This never came to fruition and was abandoned in 2009, but it did set up the model of using low-power thin clients

instead of stand-alone work stations. To accommodate this we had to purchase a new server and specialised virtual desktop software.

## Ropes and climbing equipment

We replace retired and damaged equipment on a regular basis as well as purchase new equipment as needed. Most of our climbing equipment is supplied by Urban Rock. We purchase the equipment based on quality and price. However, if there is a UK manufacturer whose products are of equal quality and price (e.g. DMM) we would choose them over a foreign manufacturer for the same product.

Over the course of the year we replaced 1500m of gym rope. Our old rope is cut into pieces to be used by customers for knot-tying practice or given to organisations or individuals for non-climbing use. We were also able to sell off some of our old matting to individuals and organisations. Unfortunately we were not able to get rid of all of it and we had to send some of it to landfill.

## Office / Stationery

The office/stationery budget consists in printing costs, phone bills, postage and other general stationery.

**Office printer** - We began leasing a new office printer in August 2008. This printer has the capacity to report the number of copies printed and is the main one we use.

Total colour pages printed from August to 31/12/08: 12,551

Total B&W pages printed from August to 31/12/08: 4,284<sup>5</sup>

**Stationery** - The paper we were using was Evolve Office and Business paper 80g/m<sup>2</sup>, recycled (but bleached).

**Publications** - We began our Castle Reference Library on sustainability issues with the purchase of a number of books and DVDs. These are located in the office and they are available for all staff to borrow.

## Outputs: Waste produced

### Rubbish, recycling and composting amounts

**Waste to Landfill** - Composition: maintenance waste, cables, broken holds, gaffa tape, blue roll, inner tubes etc + 80% recyclable materials incorrectly put in council bin (based on 2009 audit).

**Recycling** - 2008 Total: 675kg cardboard, 6743kg mixed recycling

**Skips** - In 2008 we hired a total of 4 skips. These were usually filled during periods of construction by old building materials

**Composting**- Towards the end of 2008 we trialled some methods of composting. We used a standard compost bin for cafe waste – coffee grounds etc. It was not on a suitable site and was not maintained properly. We will be trialling other methods.

Stream	Amount/description	CO <sub>2</sub> e <sup>6</sup>
Waste to landfill	4160 kg	.394 tonnes

<sup>5</sup> Based on an average of 1,050 black & white copies per month.

<sup>6</sup> Weight was calculated using The Environment Agency / WRAP's average weight per volume of waste. The CO<sub>2</sub>e calculation was done using DEFRA's GHG Conversion factors (October 2009).

Stream	Amount/description	CO <sub>2</sub> e <sup>6</sup>
<b>Recycling</b>	675kg cardboard 6743kg mixed recycling	<b>-16.06 tonnes</b>
<b>Skips</b>	Average weight of waste: 40 kg per cubic metre Total m <sup>3</sup> : 22.95m <sup>3</sup> Total waste = 918 kg	.43 tonnes
<b>Composting</b>	Trialled methods of composting – data not yet available	
		<b>-15.24 tonnes</b>

### Re-using schemes (donations, freecycle, etc.)

We have set up a freecycle account and been donating old rope to various people who have requested it (boat owners/gardeners etc). Unclaimed lost property goes to charity.

### Other disposal (WEEE)

We did not dispose of any electrical or electronic equipment in 2008.

## Travel

### Summary of Business travel

Method of travel	Total distance (km)	Total CO <sub>2</sub> e <sup>7</sup>	% of total km	% of CO <sub>2</sub> e
Train	13207	0.8	70%	44%
Underground	35	0.0027	0.1%	0.1%
Bus	54.4	0.004	0.2%	0.2%
Taxi	25	0.004	0.1%	0.2%
Car	5555	0.99	29%	55%
	<b>18853.4</b>	<b>1.7999</b>		

### Summary of Staff trip travel

Method of travel	Total distance (km)	Total CO <sub>2</sub> e <sup>8</sup>
Bus	10	0.0008
Car	4208	0.75
	<b>4218</b>	<b>0.7508</b>

### Climb Catalunya Staff Trip

The Castle organised a trip for staff members to Catalunya, Spain in Sept/Oct 2008. The Castle subsidised the services of Climb Catalunya (accommodation, food, guiding, transport) but did not subsidise transport to Barcelona and back. Most people flew to Barcelona with only 2 of the total participants driving.

Method of travel	Total distance (km)	Total CO <sub>2</sub> e <sup>9</sup>
Plane	17190	1.84
Car	4208	0.75
	<b>21398</b>	<b>2.16</b>

<sup>7</sup> Figures were calculated using the Carbon Trust's Footprint Calculator and DEFRA's GHG conversion factors (Oct 09). Distances were estimated based on average mileage where appropriate. For car travel, unless known otherwise, the vehicle was assumed to be a 2L petrol car.

<sup>8</sup> As above

<sup>9</sup> As above

## Castle customers' modes of transport

We haven't recorded how our customers come to the centre. We do, however, encourage bike use. We have large, relatively secure, bike parking and very little car parking. We are within easy walking distance from Manor House tube and Finsbury Park station and there is a bus stop right outside our gates.

## Energy & Resources

### Electricity use and source

Source	kWh	CO <sub>2</sub> e <sup>10</sup>
<b>Castle:</b> e4b 01/01/08-22/10/08	143019	76.8
British Gas 22/10/08-27/11/08	16623	8.93 <sup>11</sup>
Green Energy 27/11/08 – 31/12/08		
<b>Buxton Office (Eon)</b>	774	.42
		<b>86.15 tonnes</b>

### Gas consumption

Source	kWh	CO <sub>2</sub> e <sup>12</sup>
<b>Castle:</b> British Gas 01/01/08 – 23/5/08	232492	43.01 tonnes
Eon 23/5/08-31/12/08		
<b>Buxton Office<sup>13</sup></b>	6727	1.25 tonnes
		<b>44.26 tonnes</b>

### Water use

Office	m <sup>3</sup>	Million litres <sup>14</sup>	CO <sub>2</sub> e <sup>15</sup>
Castle	2106 (supply)	2.106	581.256kg
Castle	2106 (waste)	2.106	1459.458kg
Buxton Office <sup>16</sup>	29 (supply)	.029	8kg
Buxtone Office	29 (waste)	.029	20kg
			<b>2.07 tonnes</b>

<sup>10</sup> As per the Carbon Trust's carbon footprint calculator.

<sup>11</sup> The Green Energy Deep Green Tariff claims that it has zero carbon emissions, but we have used the Carbon Trust's methodology which states that unless renewable energy comes direct from source this should be counted as grid power, effectively counting for the same carbon emissions as electricity from non-renewable sources. This is to be reviewed.

<sup>12</sup> As per the Carbon Trust's carbon footprint calculator

<sup>13</sup> Estimated amount based on annual service charge.

<sup>14</sup> 1m<sup>3</sup>=1000 litres

<sup>15</sup> As per DEFRA's GHG conversion factors at 276 kg CO<sub>2</sub>e per million litres for water supply and 693 kg CO<sub>2</sub>e per million litres for water treatment.

<sup>16</sup> Estimated amount based on annual service charge.



## Other

### Personal trips by staff

We have not recorded personal trips by staff but we are encouraging staff to use more environmentally friendly methods of transport.

## Conclusions - Areas for development

This report has a dual purpose, of both calculating CO<sub>2</sub>e emissions and of detailing how we run our business in other areas. The 2008 serves as our baseline report. Our aim is to become a carbon neutral company by reducing our carbon emissions and offsetting what we are not able to reduce. Beyond that, we are also looking to become more sustainable through careful purchasing, disposal and review of our systems of work.

### Cafe

We can improve the sustainability of the cafe by changing our supplies to provide products that are organic, fairtrade and local. We can work on reducing the packaging that is produced by cafe products by ordering products that come with little or no packaging and producing more food on site. We know that the meat and dairy products have a high environmental impact and that current fishing practices are unsustainable. We will, therefore, be moving towards having a vegan cafe though this may take a few years to achieve. We are also going to look at ways of minimising the heating and refrigeration requirements for The Cafe.

### Cleaning

In 2009 we changed our cleaning products to a more eco-friendly range. We also abandoned the system of using laundered linens in favour of the more efficient Dyson Airblade hand-drying system. We are also looking at ways of minimising our use of the blue roll which cannot be composted.

### Assets

We are planning on further developing The Castle over the next few years and we will attempt to do so in a responsible manner. We will do this by building in low-energy features and using the best materials possible such as FSC certified wood. We are planning to develop our IT so that the individual work stations do not require very much power.

### Waste

In 2009 we began doing bi-annual waste and recycling audits to see what exactly we were throwing away. Our goal is to become zero waste to landfill. To achieve this we will need to identify the different streams of waste that we currently produce and find an end use for them. We will consider packaging and disposability when we make purchases.

### Travel

From 2010 we are improving the way we record business travel so that we can accurately track our performance in this area. We are also going to run annual customer surveys to find out how our customers come to The Castle. The biggest factor to our carbon footprint has been the staff trip to Climb Catalunya. In the future we will try to encourage travelling by train where possible by purchasing tickets in advance. We are also going to encourage staff to travel by bus, car or train by giving them extra holiday if they do so.

### Energy

Our electricity consumption and gas consumption together are responsible for 95% of our CO<sub>2</sub>e emissions so this is an obvious target for reduction. In December 2009 we set up monitors to better understand how we were using the electricity and come up with strategies to reduce the use of

electricity. We have commissioned an engineering firm, Fulcrum, to come up with a plan for how we can heat and ventilate the building with minimal power. We think that we will be able to see major improvements if we can change our lighting to be more energy efficient. Because of the massive impact that this has on our overall carbon footprint this must be the focus of our efforts.

### **Water**

We are considering ways of reducing our water consumption. This will mostly be done by collecting and storing rain water for use in the garden. We are also considering other ways of filtering and re-using water.

### **Conclusion**

This Environmental Report is just the first step in a long process towards become a sustainable, successful business. We have set ourselves some very definite targets to reach by 2015:

- Develop and implement an Environmental Management Scheme with external accreditation;
- Become carbon neutral through minimising our emissions and genuinely offsetting what emissions we cannot eliminate;
- Source all of our electricity from renewable resources;
- Become Water Neutral by collecting and recycling water ourselves;
- Regulate the environment within the building (temperature, ventilation and lighting) with the least amount of energy;
- Reduce the environmental impact of transport associated with the business;
- Actively encourage our customers and staff to reduce their own environmental impacts through an awareness campaign;
- Source all of our supplies from companies with high environmental standards;
- Send zero waste to landfill; and
- Eliminate the use of toxic substances in our cleaning and maintenance processes.

The findings of this report (and future reports) will help us come up with specific action plans for each area and track our improvement.