TO: EXECUTIVE MEMBER FOR CHILDREN, YOUNG PEOPLE & SCHOOLS
DATE: 20 March 2012

SCHOOLS ANNUAL ENVIRONMENTAL MANAGEMENT REPORT 2010/11
Director, Children Young People & Learning

1 PURPOSE OF DECISION

1.1 To approve the Schools Annual Environmental Management Report 2010/11.

2 RECOMMENDATIONS

2.1 That the Executive Member approve the Schools Annual Environmental Management Report 2010/11.

3 REASONS FOR RECOMMENDATIONS

3.1 The environmental performance of schools is a high profile issue, and one in which many schools are seeking to become accredited under the Eco-Schools programme.

3.2 Schools performance also forms part of the Council's overall performance which is managed under the terms of the Nottingham Declaration, and for which the Council and schools are liable to purchase allowances under the Government's CRC Energy Efficiency Scheme.

4 ALTERNATIVE OPTIONS CONSIDERED

4.1 None.

5 SUPPORTING INFORMATION

Background

5.1 This is the eighth Annual Environmental Management Report for schools, which began as an Education initiative in 2003/04.

5.2 The Report is based on consumption/cost data for the previous financial year, and is produced with input from different parts of the Environment Culture & Communities department.

Report Summary

5.3 The energy performance of Bracknell Forest Schools compare well against national performance indicators with the majority of schools showing improvement in energy performance.

5.4 A more detailed Executive Summary appears on Page 3 of the Report.

5.5 The work of the new Carbon/Energy Use in Schools Working Group chaired by the Executive Member for Education has been included in Section 3.4 of the Report.

Responsibility for Environmental Management

5.6 The Executive Member will be aware that while the Council can report on, and provide training and advice on Environmental Management, we cannot control performance. It is schools themselves that ultimately control and manage their resources under local management.

5.7 There continues to be an encouraging take-up by schools participating in the ECO Schools programme, which is set out on page 7 of the Report, and tabulated in APPENDIX A.

6. CONSULTATION

6.1 This report has been drawn up in consultation with officers in ECC.

6.2 This Report will also be reported to:

- ECC Carbon Management Team Meeting
- CYPL Energy Use in Schools Working Group
- Copies will be circulated to Headteachers and Chairs of Governors.

6.3 The report will also be posted on the Council's website

7. ADVICE RECEIVED FROM STATUTORY AND OTHER OFFICERS

Borough Treasurer

7.1 The cost to schools of environmental management is fully funded by government grant and therefore has no direct impact on the Council's financial responsibilities. However, governors have a duty to "seek to achieve efficiencies and value for money" and this report provides advice to help meet that duty.

Borough Solicitor

7.2 The contents of this report are noted.

Strategic Risk Management Issues

7.3 The Report highlights the need to address Climate Change by reducing carbon emissions, and the Council's need to respond to national and local performance targets. The trend for greater regulation, compliance measures and increased costs associated with Environmental Management issues is likely to be sustained over the foreseeable future.

Equalities Impact Assessment

7.4 Not applicable, as this is not a Policy or a Project.

Background Papers

Schools Annual Environmental Management Report 2010/11

Contacts for further information

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Bracknell Forest Council

Schools Annual Environmental Management Report

2010/11

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PART ONE - INTRODUCTION

1.1 Introduction

This is the eighth annual report on energy management in Bracknell Forest Council (BFC) schools. The report was expanded in 2005/06 and 2006/07 to include a section on water and transport respectively under the broader heading of environmental management.

Although all Display Energy Certificates (DEC's) for Schools were completed at end May 2010, the assessment period and method of benchmarking differ from those in this report and consequently will form part of a separate section on DEC's (APPENDIX G).

Following new Defra and Carbon Trust guidelines in 2008, the purchase of 'green' electricity is no longer recognised as a means of reducing Carbon Dioxide (CO_2) emissions and this is reflected in the reports with historical figures adjusted accordingly.

1.2 Executive Summary

a. At end of March 2011, twenty nine schools in Bracknell Forest (78%) are registered with the Eco-Schools programme. Sixteen of these achieved a bronze award, eight achieved a silver award and one achieved a green flag award.

b. The energy performance of Bracknell Forest Council Schools compares well against national performance indicators with the majority of schools showing improvement in energy performance. This has been confirmed recently via the second year DEC's where 23 of the 37 schools have an average building performance rating of greater than D-100 (Typical)

c. Although the market price of gas fell this year, overall energy costs have increased mainly due to the market price of oil and electricity.

d. Although energy consumption marginally increased since the previous year, taking into account weather and changes to floor area, school energy performance has decreased from 163.7 to 155.7 kWh/m2, a reduction of 4.89%.

e. The environmental impact of energy use, measured by the production of carbon dioxide emissions from burning fossil fuels has increased by 4.29% since the previous year mainly due to the increased electricity use in schools.

f. There is considerable scope for improved energy performance in schools, and most schools could save between 10 - 15% through no/low cost measures.

g. The management of electricity is the most important factor effecting schools in terms of both cost and increasing use. Lighting is the major component of this, which can account for up to 50% of school electricity costs.

h. Although water consumption in schools has reduced compared to previous years, water performance in BFC schools in 2010/11 continues to compare poorly against national performance indicators. This indicates there is considerable scope for reducing water consumption in BFC schools.

i. Undetected leaks, malfunctioning or no urinal flush controls are the main cause of high water consumption in schools indicating a need for improved water consumption monitoring and a maintenance contract for flush controls.

j. There continues to be scope to reduce the amount of waste currently being sent to landfill. This could be by means of promoting environmental awareness in school

activities to encourage waste minimisation, re-use and recycling, auditing the supply chain to identify those suppliers whose products come with significant amounts of un-necessary packaging that is simply thrown away, or simply reducing the number of landfill bins to encourage people to think twice before throwing something away.

k. In terms of School Transport as of January 2012, thirty five Local Authority schools (97%) have a travel plan in place. In addition the percentage of school pupils travelling to school by non car means exceeds the regional average for the South East.

1.3 Recommendations

a) Schools should register for the Eco-Schools program to provide a management framework and accreditation scheme for environmental management.

b) Schools should adopt a 'Whole School approach' as recommended by the Carbon Trust that includes pupils, staff, and governors and commit to an Energy Policy Statement.

c) Schools should monitor/target their own energy and water use via the web based BF Council supported Systems-Link database as part of their own Energy/Environmental policy. This would allow schools to recognise at an early stage their energy or water consumption is increasing and take remedial action accordingly. Where schools cannot monitor their water consumption due to location/access of meter, it is recommended that consultation with appropriate water board is required in terms of either relocating the meter or providing an easy accessible sub-meter within the premises or fitting an automatic meter reading device.

d) Effective energy/water management can reduce energy/water consumption without any loss of service, provide usable cost savings and is of benefit to the environment.

e) Schools should obtain energy or water audits from the Council where their energy or water consumption is high compared to other similar schools, or where their energy consumption has increased significantly, to identify energy/water saving measures.

f) Schools should implement energy/water saving measures through a combination of management and physical works to their buildings. Where funds for works are not available schools should consider bidding to the Council for capital funding for energy conservation works under the Invest-to-Save scheme or the Carbon Trust Salix loan scheme. Those schools willing to participate in either will receive help in the financial appraisal of energy/water saving measures by the Energy Manager.

g) Schools should consider participating in the BFC maintenance contract for flush controls.

h) Schools should audit the waste they produce on site, and implement measures to reduce it.

i) Schools should increase the scope and scale of recycling on their sites, including taking advantage of the enhanced waste recycling service offered under Council's waste contract from August 2006.

j) Schools should adopt the School Travel Plan process to review the transport choices made by the school and the pupils, and introduce measures that promote and encourage more sustainable travel modes.

k) The Council should give early consideration to the energy performance of plant, buildings and lighting when drawing up the annual planned maintenance program and new works.

l) The Council should continue to provide training/workshops for schools with respect to good housekeeping and energy awareness, with particular emphasis on saving electricity.

m) The Council should provide more advice and guidance to schools on environmental management through the Council's website.

n) The scope of the Schools Annual Environmental Management Report should be extended to include school grounds in future years.

1.4 Scope

The report considers schools performance in the management of energy, water and waste in the 2010/11 financial year.

1.5 Purpose

This report has been created in response to strategic policy initiatives at national and local level, including:

a) EU Directive 2002/91/EC Energy Efficiency: Energy Performance and Buildings, requires energy performance certificates for individual buildings above 1000m2, including schools to be provided on an annual basis.

b) The Climate Change Act (2008) puts into statute the UK's target to reduce carbon dioxide emissions (CO_2) by 80% by 2050, and 26% by 2020 against a 1990 baseline.

c) The Bracknell Forest Partnership Sustainable Community Plan 2005 "Living Together Working Together", which includes the priority to protect and enhance the environment by increasing energy efficiency and the use of renewable energy while reducing waste and pollution.

d) Bracknell Forest Council's Medium Term Objective, "To keep Bracknell Forest clean and green".

e) The Nottingham Declaration on Climate Change was signed by the Council on 27th February 2007. This commits the Council to developing and implementing a local climate change action plan in two years. The Climate Change Action Plan was published by the Council in October 2008 and updated in July 2010.

f) The Bracknell Forest Council Carbon Management Plan published in June 2009 of which schools are a major part.

g) The Carbon Reduction Commitment Energy Efficiency Scheme (CRC) requires Bracknell Forest Council to report carbon dioxide (CO_2) emissions from its corporate buildings and schools on an annual basis from 2011/12 and purchase allowances at £12t/CO_2 emitted. School CRC allowances for 2011/12 will be deducted from the general school fund.

h) In 2011 the Department for Energy and Climate Change asked all local authorities to publish their own greenhouse gas emissions in accordance with DEFRA guidelines, based on the international Greenhouse Gas Protocol. This includes schools and replaces national performance indicator NI185: CO_2 reductions from local authority operations.

i) Energy Performance of Buildings Directive: Air conditioning inspection of buildings. All buildings including schools with an air conditioning load of greater than 12Kw will require an air conditioning energy performance certificate by January 2011.

j) In April 2010, the Government introduced a system of Feed-in-Tariffs to provide financial incentives for the installation of renewable electricity technologies including solar photovoltaic (PV) systems. FITs are index linked; guaranteed for 25 years for solar PV; and provide an attractive rate of return.

k) Early 2011, the Executive Member for Education established an Energy Carbon Usage in Schools Group to help schools to improve their energy efficiency and reduce carbon dioxide emissions. Energy briefings were given to Head Teachers, Bursars, Site Managers, and Chairs of Governors, who were requested to adopt a school energy policy and action plan (Appendix E)

1.6 Objectives

The objectives of the report are to:

a) Record and benchmark schools annual performance under environmental management.

b) Identify priority schools so they can take follow up action.

c) Identify and analyse trends in environmental management performance by year on year comparison.

d) To make general recommendations about environmental management in schools.

1.7 Contacts

For further information or if there are any queries relating to the contents of this Report please contact:

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1.8 Distribution

a) This Report will be reported to:
- Children, Young People & Learning Departmental Management Team.
- Children, Young People & Learning Energy Use in Schools Working Group
- ECC Carbon Management Team Meeting

b) Copies will be circulated to Head Teachers, Bursars and Chairmen of School Governors.

c) The report will also be posted on the Council's website.

PART TWO - ECO SCHOOLS

2.1 Accredited Environmental Management Scheme

a) Bracknell Forest Council has adopted the Eco-Schools programme as the overall measure of schools' performance under environmental management.

b) The Eco-Schools programme provides a simple accredited management framework to enable your school to analyse its operations and become more sustainable. It guides schools through examination of their environmental impact across a wide range of issues including energy, waste, transport etc. The scheme is rooted in a genuine desire to help children become more effective citizens by encouraging them to take responsibility for the future of their own environment. At the same time the school can make financial savings through reducing resource consumption and therefore its utility bills.

2.2 Registration and Recognition

a) Eco-Schools is run internationally by the Foundation for Environmental Education (FEE). In England it is managed by Keep Britain Tidy.

b) Eco-Schools begin with registration. Once registered your school will be part of an international group of schools working towards education for sustainable development (ESD) and a better quality of life for local and (through joint action) global communities.

c) It is also an award scheme that will celebrate your achievements as a school and raise the profile of your school in the wider community.

2.3 Three Levels of Award:

a) Bronze award - self-assessed via website leading to a certificate.

b) Silver award - self-assessed via website leading to a certificate.

c) Green Flag - the highest level, externally assessed leading to a certificate and Flag.

2.4 Participation and progress

a) By the end of March 2011, 29 state schools and five independent schools were registered with the Eco-Schools programme in Bracknell Forest. Awards received to date include 16 Bronze, 8 Silver and one Green Flag. The borough's first Green Flag award was achieved by Sandy Lane Primary School in September 2009.

b) Please refer to Appendix A

2.5 Support from Bracknell Forest Council

a) The Council is keen to support local schools on the Eco-Schools programme as we believe it is an effective way of combining good utility management with environmental education. Officers from across the Council are available to offer support to schools on the Eco-Schools programme on the 9 topics within the programme; these include energy, biodiversity, healthy living, litter, school grounds etc.

2.6 Contacts

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PART THREE - ENERGY

3.1 Scope

Energy in this case includes gas, oil and electricity used to provide heating, domestic hot water, lighting and general power within BFC schools in the 2010/11 financial year. The report considers energy under three main headings:

1. **Energy Cost:** The cost of energy at each school, which fluctuates in the marketplace.

2. **Energy Consumption:** The use of energy by schools as a single annual figure in kilowatt-hours (kWh).

3. **Energy Environmental Impact:** the impact on the environment, measured as the amount of Carbon Dioxide (Kg CO_2) released into the atmosphere through burning fossil fuels.

3.2 Data

a) The energy data used within the report is based on actual meter readings taken by schools in the financial year 2010/11, except where a school shares a common boiler house which is not sub-metered. In this case the gas/oil is apportioned according the schools own financial calculations.
Note: For Display Energy Certificates (DEC's) oil tank readings must be taken at beginning and end of each assessment period. If readings are not taken, then it is assumed the tank is empty at the beginning or end of the assessment period resulting in higher oil consumption than expected. As such gauge readings must be taken on a monthly basis.

b) The report relies heavily on the accuracy of the data that has been used, and schools are requested to check the data carefully for their site to identify any anomalies in terms of the cost consumption of energy or floor area. Schools can view this data via the Systemslink website login www.systems-link.co.uk/webreports/ Please report any data anomalies or queries to Steven Milne, Council Energy Manager, Tel: 01344 351518 or e-mail: steven.milne@bracknell-forest.gov.uk.

c) By March 2011 automatic meter readers (AMRs) were installed on all major gas and electricity meters in addition to the statutory half-hourly meters already installed. This eliminates the need for manual meter reading at these sites, reducing potential billing errors.

3.3 Benchmarking

Schools performance in the management of energy is benchmarked in the report:

a) Against other schools, within the primary and secondary sectors.

b) Against DfE (formally DfES) national indices for energy performance in schools.

c) Against the previous year to indicate trends in performance since 2004/05.

Note: The benchmarks assessments in this report do not take account of occupancy hours, actual heated floor area, or oil gauge readings hence differ from the DEC assessment which ultimately is a more accurate assessment.

3.4 Carbon/Energy Use in Schools Working Group

A new working group was formed in 2011 called the “Carbon/Energy use in Schools Working Group”. The Working Group is chaired by the Executive Member for Education, and the membership also includes:

- CYPL Chief Officer, Performance and Resources
- Headteacher Representative
- School Governor Representative
- CYPL Head of Property and Admissions
- ECC Team Manager Climate Change
- CYPL Project Support Officer
- Energy Manager, Corporate
- Others as required

The Purpose of the Group is to analyse the options and seek ways to reduce carbon emissions and energy use in Bracknell Forest schools. The specific tasks of the Group are to

- Monitor performance on carbon emissions/energy use
- Promote carbon/energy saving measures
- Identify opportunities for carbon/energy reduction

The Scope of the Group includes all maintained and VA schools in Bracknell Forest, and the Group takes an overview of all Energy, including gas, oil, electricity and renewables

The Group has professional advice provided by the Climate Change Team.

The Group meets Termly, and produces formal notes of its meetings

The work covered by the Group so far includes:

- Provision of Automatic Meter Readers (AMRs) for schools
- Energy presentations have been made to
    - Chairs of Governors meeting
    - Bursars/Site Controllers
    - Headteachers meeting
- Review of Energy SLA to schools
- Implementation of a programme of energy saving measures
- Evaluation of solar energy options for schools, including assessment of the business case for schools installing solar photovoltaic panels and idneification of “spend to Save” funding whereby schools borrow capital from the Council to implement projects.

3.5 Summary of Energy Cost, Consumption and Environmental Impact

The following data has been derived from invoices and meter readings.

Table 1 - Energy Cost (£)

FUEL TYPE	COST (£)				% Increase / Decrease		
	2007/08	2008/09	2009/10	2010/11	On 2007/08	2008/09	2009/10
Elec	568,330	549,065	596,676	659,607	16.06%	20.13%	10.55%
Gas	212,091	247,202	294,762	243,636	14.87%	-1.44%	-17.34%
Oil	211,259	191,498	192,699	262,517	24.26%	37.09%	36.23%
Biomass	0	0	0	3,831	n/a	n/a	n/a
Totals	**991,679**	**987,765**	**1,084,137**	**1,169,590**	**17.94%**	**18.41%**	**7.88%**

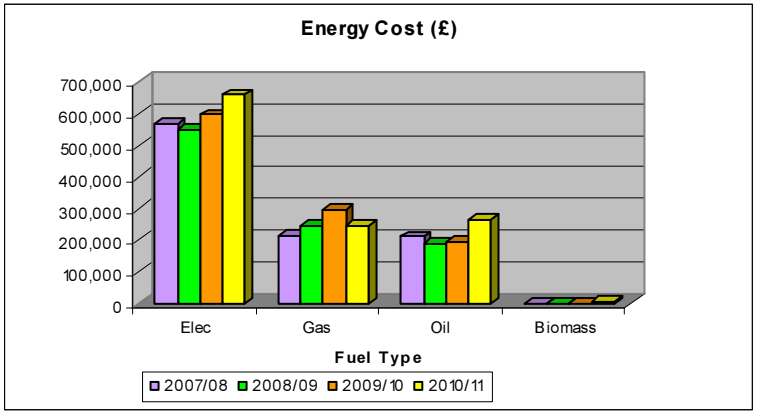


Table 2 - Energy Consumption (kWh)

FUEL TYPE	ENERGY CONSUMPTION (kWh)				% Increase / Decrease		
	2007/08	2008/09	2009/10	2010/11	On 2007/08	On 2008/09	On 2009/10
Elec	5,473,533	5,466,833	5,672,593	6,335,646	15.75%	15.89%	11.69%
Gas	7,208,353	8,409,694	8,295,051	8,623,042	19.63%	2.54%	3.95%
Oil	6,042,877	5,577,260	5,528,615	4,852,739	-19.69%	-12.99%	-12.23%
Biomass	0	0	0	96,000	n/a	n/a	n/a
Totals	**18,724,763**	**19,453,787**	**19,496,259**	**19,907,427**	**6.32%**	**2.33%**	**2.11%**

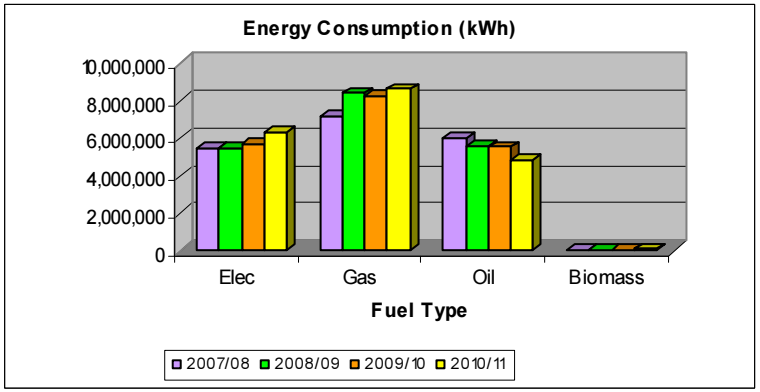


Table 3 - Environmental Impact (kgCO2)

FUEL TYPE	ENVIRONMENTAL IMPACT ($kgCO_2$)				% Increase / Decrease		
	2007/08	2008/09	2009/10	2010/11	On 2007/08	On 2008/09	On 2009/10
Elec	2,961,181	2,957,557	3,068,873	3,427,584	15.75%	15.89%	11.69%
Gas	1,323,454	1,544,020	1,522,971	1,583,191	19.63%	2.54%	3.95%
Oil	1,484,051	1,369,701	1,357,755	1,191,769	-19.69%	-12.99%	-12.23%
Biomass	0	0	0	2,496	n/a	n/a	n/a
Totals	**5,768,686**	**5,871,278**	**5,949,599**	**6,205,040**	**7.56%**	**5.68%**	**4.29%**

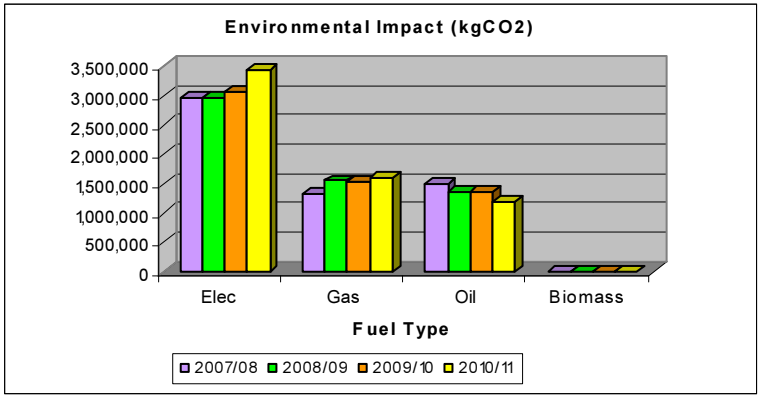
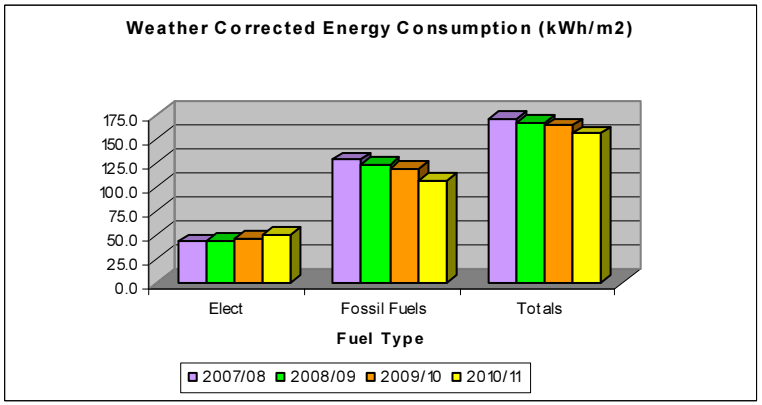


Table 4 – Weather Corrected Consumption (kWh/M_2)

FUEL TYPE	WEATHER CORRECTED CONSUMPTION (kWh/m^2)				% Increase / Decrease		
	2007/08	2008/09	2009/10	2010/11	On 2007/08	On 2008/09	On 2009/10
Elect	42.6	43.7	45.2	49.3	15.58%	12.89%	8.94%
Fossil Fuels	128.1	123.5	118.4	106.4	-16.96%	-13.88%	-10.17%
Totals	**170.7**	**167.2**	**163.7**	**155.7**	**-8.83%**	**-6.89%**	**-4.89%**



3.6 Contacts

a) For further information or if there are any queries relating to the energy contents of this report please contact:

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3.7 Energy Cost

a) To compare energy costs within BFC schools, each school type i.e. Primary, Secondary, and Special schools are separated into groups and ranked in terms of their 'Total energy cost per floor area' (£/m^2) as shown in Table 5. The lowest energy cost per floor area is ranked one whereas the highest energy cost per floor area is ranked thirty for Primary schools, and six for Secondary Schools.

b) Energy costs have risen due increasing electricity and oil prices.

c) It is therefore important for Head Teachers and Bursars to adopt energy efficiency practices and measures within their school. Effective energy management can reduce energy consumption without any loss of service, provide usable cost savings and is of benefit to environment.

d) Electricity remains the greatest fuel cost affecting schools budgets due to its high unit price.

3.8 How Can I Minimise Energy Cost in my School?

a) The recommended mechanism for reducing costs is to join the BFC fuel purchasing contracts. All schools are currently included.

b) Check invoices - tariff rates, readings and VAT.

c) Reduce energy consumption (see below).

Table 5 - Energy Cost 2010/11 (£/m^2)

Site	Rank	Floor Area (m^2) 10-Nov	Electricity Cost	Gas Cost	Oil Cost	Biomass Cost	Total Cost	% of Expenditure	10/11 £/m^2	Prev Yr 09/10 £/m^2	Trend
Primary Schools											
Owlsmoor	1	2,315	8,309	4,901	0	0	13,210	2.80%	5.71	6.77	-16%
The Pines	2	1,827	7,909	3,470	0	0	11,379	2.40%	6.23	6.43	-3%
St Michaels CE E'hamp (VA)	3	1,386	5,767	3,298	0	0	9,065	1.90%	6.54	8.01	-18%
St Margaret Clitherow RC (VA)	4	1,144	5,252	2,480	0	0	7,732	1.60%	6.76	7.87	-14%
Ascot Heath Infant	5	925	4,318	2,175	0	0	6,493	1.40%	7.02	6.64	6%
Winkfield St Marys CE	6	1,036	5,464	2,402	0	0	7,866	1.70%	7.59	8.76	-13%
Birch Hill	7	2,416	12,963	5,401	0	0	18,364	3.90%	7.6	7.19	6%
Wildmoor Heath School	8	1,094	5,307	3,094	0	0	8,402	1.80%	7.68	7.92	-3%
Harmans Water	9	3,512	15,279	2,279	9,917	0	27,474	5.80%	7.82	7.09	10%
Wooden Hill	10	1,896	10,456	4,451	0	0	14,906	3.20%	7.86	8.55	-8%
College Town Infant	11	1,682	7,487	5,748	0	0	13,235	2.80%	7.87	8.19	-4%
St Michaels CE S'hurst (VA)	12	1,322	4,262	1,211	4,972	0	10,444	2.20%	7.9	7.65	3%
Whitegrove	13	2,292	12,568	5,865	0	0	18,433	3.90%	8.04	8.9	-10%
Wildridings	14	2,739	9,553	2,214	10,433	0	22,200	4.70%	8.11	8.13	0%
Crowthorne CE	15	1,182	5,936	3,785	0	0	9,721	2.10%	8.23	9.01	-9%
Fox Hill	16	2,047	10,555	1,238	5,295	0	17,088	3.60%	8.35	8.03	4%
College Town Junior	17	1,782	9,455	1,429	4,249	0	15,133	3.20%	8.49	7.36	15%
Binfield CE (VA)	18	2,138	12,277	6,028	0	0	18,305	3.90%	8.56	9.73	-12%
Crown Wood	19	2,298	11,205	8,572	0	0	19,777	4.20%	8.61	10.28	-16%
New Scotland Hill	20	1,362	7,436	1,116	3,339	0	11,891	2.50%	8.73	8.46	3%
Uplands	21	1,432	7,324	1,176	4,508	0	13,007	2.80%	9.08	8.29	10%
Holly Spring Infant	22	1,071	6,311	3,566	0	0	9,877	2.10%	9.22	9.77	-6%
Meadow Vale	23	3,099	11,457	3,803	13,741	0	29,001	6.20%	9.36	8.09	16%
Ascot Heath Junior	24	1,416	6,285	1,006	6,058	0	13,349	2.80%	9.43	8.94	5%
Great Hollands	25	3,295	13,474	4,060	14,777	0	32,310	6.90%	9.81	9.02	9%
Warfield CE	26	1,413	10,632	3,290	0	0	13,922	3.00%	9.85	9.96	-1%
St Josephs RC (VA)	27	1,374	5,660	732	7,266	0	13,658	2.90%	9.94	8.44	18%
Sandy Lane	28	3,379	12,481	1,449	20,033	0	33,963	7.20%	10.05	6.6	52%
Cranbourne	29	1,421	6,371	2,392	6,804	0	15,567	3.30%	10.95	9.15	20%
Holly Spring Junior	30	1,300	5,951	1,264	7,096	0	14,311	3.00%	11.01	9.79	12%
Sub Totals		**55,593**	**257,703**	**93,894**	**118,487**	**0**	**470,083**	**100.00%**	**8.46**	**8.21**	**3%**
Special Schools											
Kennel Lane (Special School)		3,530	18,850	23,946	0	0	42,796	100.00%	12.13	12.17	0%
Secondary Schools											
Edgbarrow (excl. Sp Cen)	1	10,202	53,141	19,605	0	0	72,746	11.50%	7.13	9.38	-24%
Easthampstead Park	2	13,147	64,921	29,141	0	0	94,062	14.90%	7.15	7.89	-9%
Brakenhale	3	11,764	54,603	4,461	56,165	0	115,229	18.20%	9.79	8.96	9%
Ranelagh CE (VA)	4	11,469	42,688	31,095	42,010	0	115,794	18.30%	10.1	9.36	8%
Sandhurst (incl. Sp Cen)	5	8,055	43,271	5,795	37,560	0	86,626	13.70%	10.75	8.34	29%
Garth Hill College	6	13,016	110,142	26,556	8,295	3,831	148,824	23.50%	11.43	7.85	46%
Sub Totals		**67,653**	**368,766**	**116,654**	**144,030**	**3,831**	**633,281**	**100.00%**	**9.36**	**8.57**	**9%**
Totals		**126,775**	**645,319**	**234,493**	**262,517**	**3,831**	**1,146,160**		**9.04**	**8.51**	**6%**

3.9 Energy Consumption

a) Energy consumption data for gas and oil has been adjusted for ambient temperature using the formulae described in APPENDIX B. The total weather-corrected energy consumption (including electricity) has then been ranked by floor area (kWh/m2), and benchmarked against the DfE "Energy and Water Benchmarks for Schools 2002-3". This publication is the most recent available for national comparisons.

b) In Table 6 the median quartile is the value of a typical school's weather corrected energy consumption. The Upper Quartile refers to a performance worse than average, and Lower Quartile refers to better than average performance.

c) Primary, Secondary and Special Schools are shown as separate groups, but ranked in terms of their 'Total Weather Corrected energy consumption per floor area'. As with cost/m^2 the lowest is ranked as one whereas the highest is ranked thirty for a Primary school and six for a Secondary school.

d) In terms of national comparisons with reference to DfE Quartile performance all schools in 2010/11 have either a better than average performance termed 'Lower Quartile' or are of average performance termed 'Medium Quartile'

e) The majority of schools show an improvement in their energy performance in 2010/11 compared to 2009/10.

f) Over the last four years, Bracknell Forest schools total weather corrected energy consumption has reduced each year (171kWh/M^2 2007/08, 167kWh/M^2 2008/09, 164kWh/M^2 2009/10, 156kWh/M^2 2010/11).

g) Note: There is no benchmark data available for Special Schools.

3.10 How Can I Reduce Energy Consumption in my School?

a) Form a working group to review energy use in your school.

b) Adopt a whole school approach that involves pupils, staff and governors. (See APPENDIX D).

c) Undertake an energy awareness campaign. Contact **Hazel Hill**, Sustainable Energy Officer on 01344 352536 or hazel.hill@bracknell-forest.gov.uk.

d) Undertake recommendations as given in 2009/10 Display Energy Certificate Advisory Reports.

e) Ensure all major energy using plant and air conditioning has a maintenance contract associated with it.

Table 6 - Energy Consumption 2010/11 (kWh/m^2)

Site	Rank	Floor Area 10/11 (m2)	Elec kWh	Gas kWh	Oil kWh	Biomass kWh	Total Consum-ption kWh	10/11 Weather Corrected kWh	10/11 Weather Corrected kWh/m2	DfES QP	09/10 Weather Corrected kWh/m2	Trend
Primary Schools												
Harmans water	1	3,512	142,610	67,698	188,718	0	399,026	400,959	114.17	LQ	122.66	-7%
College Town Junior	2	1,782	87,421	24,270	95,192	0	206,883	207,784	116.6	LQ	123.86	-6%
St Margaret Clitherow RC (VA)	3	1,144	55,636	79,239	0	0	134,875	135,472	118.42	LQ	124.6	-5%
Fox Hill	4	2,047	98,161	40,543	119,050	0	257,754	258,957	126.51	LQ	135.07	-6%
Owlsmoor	5	2,315	77,180	216,471	0	0	293,651	295,283	127.56	LQ	146.15	-13%
New Scotland Hill	6	1,362	72,269	33,667	70,118	0	176,054	176,837	129.81	LQ	137.34	-5%
The Pines	7	1,827	73,956	166,895	0	0	240,851	242,109	132.52	LQ	129.35	2%
Uplands	8	1,432	67,118	37,027	88,707	0	192,852	193,800	135.34	LQ	138.7	-2%
Ascot Heath Infant	9	925	35,706	91,685	0	0	127,391	128,082	138.47	LQ	123.83	12%
Wildridings	10	2,739	112,512	64,172	202,097	0	378,781	380,788	139.02	LQ	166.28	-16%
St Michaels Sandhurst CE (VA)	11	1,322	48,688	38,080	96,007	0	182,775	183,785	139.03	LQ	157.32	-12%
St Josephs RC (VA)	12	1,374	61,934	11,867	123,720	0	197,521	198,543	144.52	LQ	140.62	3%
St Michaels Easthampstead CE (VA)	13	1,386	61,903	138,440	0	0	200,343	201,387	145.3	LQ	137.69	6%
Binfield CE (VA)	14	2,138	132,722	183,100	0	0	315,822	317,202	148.36	LQ	148.89	0%
Birch Hill	15	2,416	114,136	244,747	0	0	358,883	360,728	149.3	LQ	154.23	-3%
Wooden Hill	16	1,896	97,126	186,079	0	0	283,205	284,608	150.11	LQ	151.99	-1%
Wildmoor Heath	17	1,094	49,241	114,124	0	0	163,365	164,225	150.17	LQ	137.02	10%
Winkfield St Marys CE	18	1,036	50,853	106,748	0	0	157,601	158,406	152.9	MQ	176.14	-13%
Warfield CE	19	1,413	96,018	125,098	0	0	221,116	222,059	157.13	MQ	189.88	-17%
Ascot Heath Junior	20	1,416	65,937	27,667	133,174	0	226,778	227,990	161.07	MQ	166.27	-3%
Whitegrove	21	2,292	105,507	265,442	0	0	370,949	372,950	162.7	MQ	193.16	-16%
College Town Infant	22	1,682	69,234	208,205	0	0	277,439	279,008	165.88	MQ	186.4	-11%
Meadow Vale	23	3,099	107,120	154,164	249,791	0	511,075	514,120	165.91	MQ	169.09	-2%
Sandy Lane	24	3,379	130,654	51,196	376,882	0	558,732	561,959	166.31	MQ	145.3	14%
Crown Wood	25	2,298	103,646	277,815	0	0	381,461	383,555	166.93	MQ	174.83	-5%
Holly Spring Junior	26	1,300	55,423	42,034	126,803	0	224,260	225,533	173.55	MQ	208.84	-17%
Great Hollands	27	3,295	127,707	168,708	286,896	0	583,311	586,745	178.07	MQ	198.32	-10%
Crowthorne CE	28	1,182	55,143	155,419	0	0	210,562	211,734	179.21	MQ	176.58	1%
Holly Spring Infant	29	1,071	60,934	134,369	0	0	195,303	196,316	183.3	MQ	180.64	1%
Cranbourne	30	1,421	58,055	105,705	108,337	0	272,097	273,710	192.62	MQ	210.16	-8%
Sub Totals		**55,593**	**2,474,550**	**3,560,674**	**2,265,493**	**0**	**8,300,717**	**8,344,633**	**150.1**		**158.44**	**-5%**
Special Schools												
Kennel Lane		3,530	208,936	801,427	0	0	1,010,363	1,016,404	287.97	n/a	300.9	-4%
Secondary Schools												
Edgbarrow (excl. Sp Cen)	1	10,202	499,439	801,266	0	0	1,300,705	1,306,745	128.09	LQ	160.76	-20%
Brakenhale	2	11,764	505,069	132,696	1,004,764	0	1,642,529	1,651,103	140.35	LQ	166.86	-16%
Easthampstead Park	3	13,147	611,835	1,310,388	0	0	1,922,223	1,932,100	146.96	LQ	147.73	-1%
Sandhurst (incl. Sp Cen)	4	9,825	433,336	139,493	670,057	0	1,242,886	1,586,888	161.52	MQ	122.34	32%
Ranelagh CE (VA)	5	11,469	424,382	713,061	716,545	0	1,853,988	1,864,764	162.59	MQ	194.43	-16%
Garth Hill College	6	13,016	1,061,939	943,956	195,880	96,000	2,297,775	2,307,090	177.25	MQ	136.47	30%
Sub Totals		**69,423**	**3,536,000**	**4,040,860**	**2,587,246**	**96,000**	**10,260,106**	**10,648,690**	**153.39**		**154.71**	**-1%**
TOTALS		**128,546**	**6,219,486**	**8,402,961**	**4,852,739**	**96,000**	**19,571,186**	**20,009,727**	**155.66**		**160.48**	**-3%**

Note: DfES Quartile Performance Abbreviations: LQ – Lower Quartile, MQ – Medium Quartile, UQ – Upper Quartile.

3.11 Energy Environmental Impact

a. The burning of fossil fuels releases greenhouse gasses into the atmosphere, principally Carbon Dioxide (CO_2), which is considered to be responsible for Climate Change through global warming.

b. Each fuel type has a different intensity of Carbon Dioxide emitted per kilowatt-hour of energy used as shown in Appendix C. Consequently fuel type and quantity has a varying impact on the environment in term of Carbon Dioxide emissions. Carbon Dioxide emissions are also subject to correction for ambient temperature. In Table 6, the total figure for weather-corrected Carbon Dioxide emissions has then been ranked by floor area (kWh/m2), and benchmarked against the DCSF "Energy and Water Benchmarks for Schools 2002-3". This publication is the most recent available for national comparisons.

c. As can be seen in Table 7, the majority of schools in 2010/11 have a CO_2 emission performance within Medium Quartile termed 'average CO_2 emissions'.

d. The historical increase in CO_2 emissions is mainly attributable to the rise in electricity consumption in schools.

3.12 How Can I Minimise Energy Environmental Impact in my School?

a) Replace existing 15 year old plus oil /gas fired boiler plant by modern high efficiency gas fired boiler plant or biomass boiler plant (requires a technical assessment).

b) Consider implementing a renewable energy scheme for your school.

c) Reduce consumption (see above)

Table 7 - Energy Environmental Impact 2010/11 (CO_2/m^2)

Site	Rank	Floor Area (m2) 10-Nov	Elect kgCO2	Gas kgCO2	Oil kgCO2	Biomass kgCO2	Total Fuel $kgCO_2$	10/11 Weather Corrected Fuel CO_2/m^2	09/10 Weather Corrected Fuel CO_2/m^2	DfE Quartile performance	Trend
Primary Schools											
Owlsmoor	1	2,315	41,754	39,744	0	0	81,498	35.34	38.72	LQ	-9%
The Pines	2	1,827	40,010	30,642	0	0	70,652	38.8	37.14	LQ	4%
Harmans Water	3	3,512	77,152	12,429	46,347	0	135,928	38.83	40.14	LQ	-3%
St Margaret Clitherow RC (VA)	5	1,144	30,099	14,548	0	0	44,647	39.12	40.18	LQ	-3%
Ascot Heath Infant	4	925	19,317	16,833	0	0	36,150	39.22	36.69	LQ	7%
College Town Junior	6	1,782	47,295	4,456	23,378	0	75,129	42.28	43.32	MQ	-2%
St Michaels CE E'hamp (VA)	7	1,386	33,490	25,418	0	0	58,907	42.64	42.01	MQ	1%
St Michaels CE, S'hurst (VA)	8	1,322	26,340	6,991	23,578	0	56,910	43.23	47.06	MQ	-8%
Wildmoor Heath School	9	1,094	26,639	20,953	0	0	47,593	43.66	40.98	MQ	7%
Fox Hill	10	2,047	53,105	7,444	29,237	0	89,786	44	46.46	MQ	-5%
Birch Hill	11	2,416	61,748	44,936	0	0	106,683	44.3	43.13	MQ	3%
Wildridings	12	2,739	60,869	11,782	49,632	0	122,283	44.81	51.72	MQ	-13%
College Town Infant	13	1,682	37,456	38,226	0	0	75,682	45.17	48.24	MQ	-6%
Uplands	14	1,432	36,311	6,798	21,785	0	64,894	45.47	45.14	MQ	1%
Winkfield St Marys CE	15	1,036	27,511	19,599	0	0	47,110	45.62	50.15	MQ	-9%
Wooden Hill	16	1,896	52,545	34,164	0	0	86,709	45.87	45.9	MQ	0%
New Scotland Hill	17	1,362	39,098	6,181	17,220	0	62,499	46.01	49.24	MQ	-7%
Whitegrove	18	2,292	57,079	48,735	0	0	105,814	46.32	53	MQ	-13%
Crown Wood	19	2,298	56,072	51,007	0	0	107,079	46.77	50.14	MQ	-7%
Meadow Vale	20	3,099	57,952	28,305	61,345	0	147,602	47.85	48.39	MQ	-1%
St Josephs RC (VA)	21	1,374	33,506	2,179	30,384	0	66,069	48.27	46.55	MQ	4%
Binfield CE (VA)	22	2,138	71,803	33,617	0	0	105,420	49.43	47.3	MQ	4%
Crowthorne CE	23	1,182	29,832	28,535	0	0	58,367	49.58	48.89	MQ	1%
Sandy Lane Primary	24	3,379	70,684	9,400	92,557	0	172,641	51.32	41.84	MQ	23%
Great Hollands	25	3,295	69,089	30,975	70,458	0	170,522	51.98	55.36	MQ	-6%
Ascot Heath Junior	26	1,416	35,672	5,080	32,706	0	73,457	52.1	54.1	MQ	-4%
Warfield CE	27	1,413	51,946	22,968	0	0	74,914	53.13	57.61	MQ	-8%
Holly Spring Junior	28	1,300	29,984	7,718	31,141	0	68,843	53.2	61.65	MQ	-14%
Holly Spring Infant	29	1,071	32,965	24,670	0	0	57,635	53.99	52.16	MQ	3%
Cranbourne	30	1,421	31,408	19,407	26,606	0	77,421	54.73	58.13	MQ	-6%
Sub Totals		**55,593**	**1,338,732**	**653,740**	**556,375**	**0**	**2,548,846**	**46.11**	**47.2**	**MQ**	**-2%**
Special Schools											
Kennel Lane		3,530	113,034	147,142	0	0	260,176	74.03	74.68		-1%
Secondary Schools											
Edgbarrow (excl. Sp Cen)	1	10,202	270,196	147,112	0	0	417,309	41.01	48.73	MQ	-16%
Easthampstead Park	2	13,147	331,003	240,587	0	0	571,590	43.62	44.89	MQ	-3%
Brakenhale	3	11,764	273,242	24,363	246,757	0	544,362	46.45	53.22	MQ	-13%
Ranelagh CE (VA)	4	11,469	229,591	130,918	175,974	0	536,483	46.98	52.74	MQ	-11%
Sandhurst (incl. Sp Cen)	5	8,055	297,277	66,018	164,557	0	527,852	53.04	51.27	MQ	3%
Garth Hill College	6	13,016	574,509	173,310	48,105	2,496	798,421	61.28	44.87	MQ	37%
Sub Totals		**67,653**	**1,975,819**	**782,309**	**635,393**	**2,496**	**3,396,017**	**51.11**	**48.99**	**MQ**	**4%**
TOTALS		**126,775**	**3,427,584**	**1,583,191**	**1,191,769**	**2,496**	**6,205,040**	**49.52**	**48.92**		**1%**

Note: DfES Quartile Performance Abbreviations: LQ – Lower Quartile, MQ – Medium Quartile, UQ – Upper Quartile

PART FOUR - WATER

4.1 Scope

The report includes water under two main headings:

Water Cost: The cost of water use in terms of supply and sewage which fluctuates occurring to supplier price as governed by Ofwat. There are two water suppliers for BFC schools:

- South East Water
- Veolia Water

Both companies use Thames Valley Water for sewerage, price of which is incorporated in the suppliers invoice.

Water consumption: The use of water in schools as a single annual figure in cubic meters (m3).

4.2 Data

a) The water data used within the report is based on invoice data received from the supplier. It therefore equates closely to finance records. However as the majority of schools are quarterly billed the readings often do not fall within the financial year start and end period.

b) The report relies heavily on the accuracy of the data that has been used, and schools are requested to check the data carefully for their site to identify any anomalies in terms of the cost, consumption of water or pupil numbers. Schools can view this data via the SystemsLink website login www.systems-link.co.uk/webreports/. Where schools cannot monitor their water consumption due to location/access of meter, it is recommended that consultation with appropriate water board is required in terms of either relocating meter or providing an easy accessible sub-meter within the premises. Please report any data anomalies or queries regards to Steven Milne, Borough Energy Manager, Tel: 01344 351518 or e-mail: steven.milne@bracknell-forest.gov.uk.

c) As of end of March 2011, 22 schools (61%) were using SystemsLink for monitoring water (See APPENDIX H). The main reason for schools not taking water readings was meter inaccessibility.

d) Following guidance from the DfE, pupil numbers are based on the NOR in January of that particular year. Thus January 2011 NOR is used for financial period 10/11.

4.3 Benchmarking

Schools performance in the management of water is benchmarked in the report:

a) Against other schools, within the primary and secondary sectors

b) Against DfE national indices for energy performance in schools. Note: there are different indices for primary schools-with or without swimming pool to reflect to the expected higher use of water in schools with pools.

c) Against previous year to indicate trends in performance since 2004/05.

4.4 BFC Summary of Water Cost and Consumption 2008 to 2011

The following data has been derived from supplier invoice data.

Table 8 – Water Cost (£)

WATER COST (£)			% Increase / Decrease	
2008/09	2009/10	2010/11	On 2008/09	On 2009/10
133,339.52	131,681.92	143,280.36	7.46%	8.81%

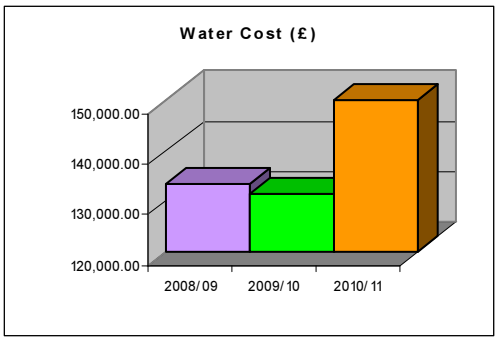
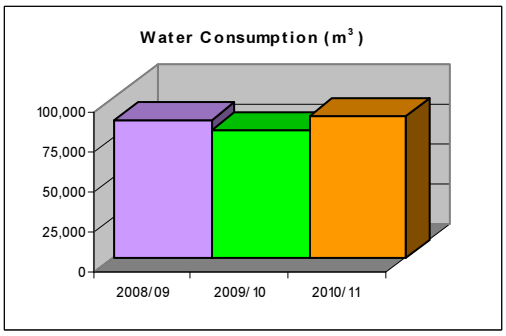


Table 9 – Water Consumption (m3)

WATER CONSUMPTION (m^3)			% Increase / Decrease	
2008/09	2009/10	2010/11	On 2008/09	On 2009/10
85,117	79,880	87,908	3.28%	10.05%



4.5 Contacts

a) For further information or if there are any queries relating to the water contents of this report please contact:

Steven Milne
Borough Energy Manager
Tel: 01344 351518
steven.milne@bracknell-forest.gov.uk

4.6 Water Cost

a) To compare water costs within BFC schools, each school type i.e. Primary, Secondary, and Special schools are separated into groups and ranked in terms of their 'Total water cost per pupil number' (£/pupil no.) as shown in Table 10. The lowest water cost per pupil number is ranked one whereas the highest water cost per pupil number is ranked thirty for Primary schools, and six for Secondary Schools.

4.7 How can I Minimise Water Cost in my School

a) Review the size of the water meter serving your school. The size of the meter effects the standing water and sewerage charges applied on the invoice.

b) Check the water company tariff rates are correct for your property.

c) Check if your school is entitled to a surface water drainage rebate - If your surface water drains to soakaways or a river or canal you may be entitled to a rebate.

d) Reduce water consumption (see below).

Table 10 - Water Cost 2009/10 to 2010/11 (£/pupil)

	Rank	2010/11 Pupil Nos.	Meter Size (mm)	Cost (£) 2009/10	Cost (£) 2010/11	10/11 £/pupil	09/10 £/pupil	Trend	Pool Y or N
Primary Schools									
St Michaels CE Primary, S'hurst(VA)	1	244	25	£926.46	£882.60	3.62	4.52	-20%	N
Sandy Lane Primary	2	584	50	£2,960.58	£2,994.57	5.13	5.84	-12%	N
St Margaret Clitherow RC Primary (VA)	3	210	25	£849.22	£1,113.11	5.30	4.20	26%	N
Whitegrove Primary school	4	442	40	£2,604.91	£2,490.62	5.63	6.42	-12%	N
Harmans Water Primary school	5	685	40	£4,722.74	£4,300.14	6.28	7.87	-20%	Y
Birch Hill Primary school	6	435	40	£3,866.06	£2,894.02	6.65	10.34	-36%	N
Wooden Hill Primary school	7	376	40	£2,485.54	£2,516.55	6.69	7.87	-15%	N
Warfield CE Primary school	8	210	20	£1,288.25	£1,481.77	7.06	6.22	13%	N
St Michaels CE Primary, E'ham (VA)	9	212	15	£1,424.46	£1,499.06	7.07	6.06	17%	N
Uplands Primary school	10	208	25	£962.97	£1,473.29	7.08	4.59	54%	N
St Josephs RC Primary (VA)	11	208	25	£1,606.19	£1,541.00	7.41	7.76	-5%	N
Owlsmoor Primary school	12	489	40	£3,981.22	£3,702.25	7.57	8.75	-13%	N
Meadow Vale school	13	480	50	£2,838.40	£3,650.09	7.60	6.62	15%	N
Ascot Heath Infant school	14	202	50	£1,337.79	£1,716.16	8.50	6.37	33%	N
Winkfield St Mary's CE Primary school	15	204	15	£1,123.17	£1,776.08	8.71	5.82	50%	Y
Crown Wood Primary school	16	315	40	£3,349.24	£2,836.39	9.00	12.40	-27%	N
College Town Infant school	17	284	15	£2,220.75	£2,595.43	9.14	8.95	2%	N
Great Hollands School	18	388	50	£4,304.59	£3,598.22	9.27	14.11	-34%	N
New Scotland Hill Primary school	19	228	25	£2,292.94	£2,222.45	9.75	11.19	-13%	Y
Wildmoor Heath School	20	187	15	£1,573.33	£1,860.67	9.95	8.74	14%	N
Binfield CE Primary (VA)	21	409	40	£3,356.26	£4,196.41	10.26	8.09	27%	N
Holly Spring Infant school	22	242	40	£1,646.42	£2,517.99	10.40	9.25	12%	N
Cranbourne Primary school	23	186	20	£1,793.60	£2,060.73	11.08	10.19	9%	Y
Fox Hill Primary school (incl. Rowans)	24	193	40	£2,279.09	£2,192.40	11.36	14.33	-21%	N
Crowthorne CE Primary school	25	208	15	£2,382.26	£2,363.48	11.36	11.79	-4%	N
Holly Spring Junior school	26	221	40	£2,469.63	£2,517.99	11.39	11.65	-2%	N
Wildridings Primary school	27	339	40	£2,288.92	£4,161.83	12.28	8.54	44%	Y
College Town Junior school	28	284	40	£2,373.18	£3,677.76	12.95	9.13	42%	N
Pines School (The)	29	201	40	£2,936.35	£2,840.71	14.13	15.45	-9%	N
Ascot Heath Junior school	30	237	50	£3,616.98	£4,638.91	19.57	15.46	27%	Y
Sub Total		**9,111**		**£71,861.49**	**£78,312.68**	**8.60**	**8.70**	**-1%**	
Special Schools									
Kennel Lane school (Special School)		181	40	£8,907.86	£8,224.96	45.44	51.79	-12%	Y
Secondary Schools									
Garth Hill school and Wick Hill Annexe	1	1382	50	£5,256.77	£7,404.55	5.36	3.96	35%	N
Ranelagh CE School(VA)	2	951	50	£7,508.03	£5,440.88	5.72	8.13	-30%	N
Edgbarrow school	3	1213	50	£11,386.98	£7,606.25	6.27	9.79	-36%	N
Sandhurst (Includes Sp Cen)	4	1082	50	£6,590.95	£10,535.19	9.74	5.90	65%	N
Easthampstead Park	5	893	40	£5,655.27	£10,251.67	11.48	5.87	96%	N
Brakenhale (Excl OLC)	6	955	50	£14,514.58	£15,504.17	16.23	16.36	-1%	N
Sub Total		**6,476**		**£50,912.58**	**£56,742.72**	**8.76**	**7.98**	**10%**	
Totals		**15,768**		**£131,681.92**	**£143,280.36**	**9.09**	**8.89**	**2%**	

Notes:

Consumption cost data gathered using direct readings
Ascot Heath Figures Adjusted for 2009/10 due to updated invoicing information.
Birch Hill Primary have been taking water reads, but it is believed that they have been reading wrong meter.

The following schools are supplied by Veolia Water:
Cranbourne Primary
Ascot Heath Junior & Infants Schools
Winkfield St Mary's School
All others are supplied by South East Water

4.8 Water Consumption

a) Water consumption (cubic meters) has been ranked by pupil numbers (m3/pupil), and benchmarked against the DfE "Energy and Water Benchmarks for Schools 2002-3". This publication is the most recent for national comparisons.

b) In 11 the medium quartile is the value of a typical school's water consumption adjusted for both school type and with or without pool.

c) Primary, Secondary and Special Schools are shown as separate groups, but ranked in terms of their water consumption per pupil. As with cost/pupil, the lowest is ranked as one whereas the highest is ranked thirty for a Primary school and six for a Secondary school.

d) Unexpectedly with the exception of Ascot Heath Junior the highest water users are not those with swimming pools.

e) In terms of national comparisons with reference to DCFS Quartile performance only two schools in 20010/11 have either a better than average performance termed 'Lower Quartile'. Furthermore twenty two schools show a worse than average performance termed 'Upper Quartile'. This implies there is considerable work required to improve water consumption in BFC schools.

Overall water usage has increased from 5.39m3/ pupil in 2009/10 to 5.58 m3/ pupil in 2010/11-an overall increase of 3%.

f) Compliance with Water Bye Laws

As noted in the previous annual report it is known that at least one school in 2006/07 has had a warning from South East Water with regard to compliance with current water bye laws: None of the cisternmisers were operational allowing urinal cisterns to continually flush 24 hours/per day.

Table 11 - Water Consumption 2009/10 to 2010/11 (m^3/pupil)

	Rank	2010/11 Pupil Nos.	Consumption (m^3) 2009/10	Consumption (m^3) 2010/11	10/11 m^3 / pupil	DfES Quartile Performance	Prv year 09/10 m^3/Pupil	Trend m^3/pupil	Pool Y or N
Primary Schools									
St Michaels CE Primary, S'hurst (VA)	1	244	513	457	1.87	Lower Quartile	2.50	-25%	N
Sandy Lane Primary	2	584	1,359	1,444	2.47	Lower Quartile	2.68	-8%	N
St Margaret Clitherow RC Primary (VA)	3	210	458	617	2.94	Median Quartile	2.27	30%	N
Whitegrove Primary school	4	442	1,434	1,401	3.17	Median Quartile	3.53	-10%	N
Wooden Hill Primary school	5	376	1,349	1,419	3.77	Median Quartile	4.27	-12%	N
Birch Hill Primary school	6	435	2,332	1,681	3.86	Median Quartile	6.24	-38%	N
Harmans Water Primary school	7	685	2,942	2,657	3.88	Median Quartile	4.90	-21%	Y
Meadow Vale school	8	480	1,272	1,899	3.96	Median Quartile	2.97	33%	N
Uplands Primary school	9	208	539	867	4.17	Upper Quartile	2.57	62%	N
St Josephs RC Primary (VA)	10	208	997	914	4.39	Upper Quartile	4.82	-9%	N
Warfield CE Primary school	11	210	829	933	4.44	Upper Quartile	4.00	11%	N
Owlsmoor Primary school	12	489	2,414	2,242	4.58	Upper Quartile	5.31	-14%	N
St Michaels CE Primary, E'ham (VA)	13	212	968	994	4.69	Upper Quartile	4.12	14%	N
Great Hollands School	14	388	2,316	1,863	4.80	Upper Quartile	7.59	-37%	N
Ascot Heath Infant school	15	202	748	1,010	5.00	Upper Quartile	3.56	40%	N
Crown Wood Primary school	16	315	1,964	1,641	5.21	Upper Quartile	7.27	-28%	N
Winkfield St Marys CE Primary school	17	204	713	1,179	5.78	Upper Quartile	3.69	56%	Y
Holly Spring Infant school	18	242	1,004	1,420	5.87	Upper Quartile	5.64	4%	N
New Scotland Hill Primary school	19	228	1,486	1,387	6.08	Upper Quartile	7.25	-16%	Y
College Town Infant school	20	284	1,535	1,755	6.18	Upper Quartile	6.19	0%	N
Fox Hill Primary school	21	193	1,202	1,194	6.19	Upper Quartile	7.56	-18%	N
Binfield CE Primary (VA)	22	409	1,969	2,585	6.32	Upper Quartile	4.74	33%	N
Holly Spring Junior school	23	221	1,506	1,420	6.43	Upper Quartile	7.10	-10%	N
Wildmoor Heath School	24	187	1,074	1,245	6.66	Upper Quartile	5.97	12%	N
Cranbourne Primary school	25	186	1,129	1,336	7.18	Upper Quartile	6.41	12%	Y
Wildridings Primary school	26	339	1,209	2,561	7.55	Upper Quartile	4.51	67%	Y
Crowthorne CE Primary school	27	208	1,650	1,594	7.66	Upper Quartile	8.17	-6%	N
College Town Junior school	28	284	1,269	2,225	7.83	Upper Quartile	4.88	61%	N
Pines School (The)	29	201	1,670	1,644	8.18	Upper Quartile	8.79	-7%	N
Ascot Heath Junior school	30	237	2,022	2,730	11.52	Upper Quartile	8.64	33%	Y
Sub Total		**9,111**	**41,872**	**46,314**	**5.08**		**5.07**	**0%**	
Special Schools									
Kennel Lane school (Special School)		181	5,922	5,709	31.54	n/a	34.43	-8%	Y
Secondary Schools									
Garth Hill College	1	1382	2,994	4,505	3.26	Median Quartile	2.25	45%	N
Ranelagh CE School (VA)	2	951	4,597	3,142	3.30	Median Quartile	4.98	-34%	N
Edgbarrow school	3	1213	7,359	4,645	3.83	Upper Quartile	6.33	-39%	N
Sandhurst (Includes Sp Cen)	4	1082	3,944	6,678	6.17	Upper Quartile	3.53	75%	N
Easthampstead Park	5	893	3,606	6,788	7.60	Upper Quartile	3.74	103%	N
Brakenhale	6	955	9,586	10,127	10.60	Upper Quartile	10.81	-2%	N
Sub Total		**6,476**	**32,086**	**35,885**	**5.54**		**5.03**	**10%**	
Totals		**15,768**	**79,880**	**87,908**	**5.58**		**5.39**	**3%**	

Notes:

Consumption data gathered using direct readings.

Ascot Heath Figures Adjusted for 2009/10 due to updated invoicing information.

Birch Hill Primary have been taking water reads, but it is believed that they have been reading wrong meter.

Pines school, Edgbarrow School and Sandhurst school all share water meters with council buildings.

Large increases in use at Easthampstead Park School and Sandhurst due to water leaks, both of which have now been fixed.

Ascot Heath Infants and Junior share same water meter, consumption figures based on financial agreement between schools.

4.9 How can I Reduce Water Consumption in my School

a) Identify the location of water meter and record readings on a regular basis via the SystemsLink Web site to identify adverse high usage. Review consumption during weekends and holiday periods to identify unnecessary waste and leaks.

b) Carry out daily walk round checks at end of day to check all wash hand basin taps are closed and no water leaks are visible in service areas. Ensure a reporting mechanism exists for reporting leaks i.e. via Energy Working Group.

c) Check all urinals tanks have flush controls fitted. Those without would benefit considerably by installing flush controls.

d) Check existing urinal flush controllers are operating correctly and associated batteries have been replaced within the last year.

e) Consider replacing existing conventional taps with self closing or percussion type.

f) Consider participating in the Council established maintenance contract for flush controls.

g) Ensure push buttons on/off controls are fitted for showers.

h) Ensure swimming pools are covered when not in use. A pool cover not only reduces water consumption (lost via evaporation from pool) but also heat losses.

i) Obtain a free water efficiency audit from your water supplier:
- For South East Water users Contact: Mike Cook, Tel: 01444 448201 or mcook@southeastwater.co.uk
- For Veolia Water users Tel: Jenny McKeown : 01707 250484 or Jenny.McKeown@Veoliawater.co.uk

j) Raise awareness of water usage in your school
For Junior Schools only: Free seminar for pupils on 'The Wonderful World of Water'
- For South East Water users Contact: Karen Neal Tel: 0144 448258 or kneal@southeastwater.co.uk

k) Consider fitting an automatic meter reader to the water meter. This would enable water consumption to be monitored on a daily basis and assist early detection of leaks.

l) Consider installing a water submeter if your school shares the water supply with another Council building to ensure your school only pays for what it uses.

PART FIVE – WASTE.

5.1 Scope

The report considers waste under two headings:

Residual Waste:

The household-type non recyclable waste that schools generate which is collected through the Bracknell Forest Council and sent to either landfill or an energy from waste site.

Recycling:

All the schools are currently engaged in pro-active recycling of their paper, plastic, tins.

It should be noted that 24 primary schools' continue to use Woodside Recycling for their paper collection as a separate recycling collection service from that provided by the Council. The Council continues to provide both refuse and recycling containers.

5.2 Waste Analysis

The total amount of waste generated by each school has been estimated following this waste analysis which comprised of waste from six schools in November 2011 comprising 1 secondary and 2 primary schools' bulk bins which were separately weighed to establish the average weight per bin. Please note if a school has a large number of bins which are not all full each week they should request removal of some bins to ensure that their average weight calculated as full bins on the weight chart tables 12 and 13 are fairly measured. This will also save collection cost.

The average weight per bin was:

Primary Schools	76 kg
Secondary Schools	108 kg

Total amount of residual waste generated has been estimated by multiplying the average weight per bin audited by the number of bins at each school.

The estimated total amount of waste generated was:

Primary Schools	363 tonnes*
Secondary Schools	331 tonnes*

*The additional tonnage data provided by Woodside for 2011 indicate that Primary Schools collectively recycled 213 tonne of paper, and Secondary Schools 32 tonne of paper. This is additional to the above average figure.

Currently the 28 primary schools within the Borough utilise 104-1100 litre residual waste bins and 53-240 litre recycling bins and 1-660 litre recycling bins.

Currently the 7 secondary schools within the Borough utilise 40 -1100 litre and 4 FEL skip bins as recycling bins.

The new collection contract commenced in August 2011, and all the schools have elected to continue with existing arranging for their waste collections.

5.3 Reducing Waste Sent to landfill.

The waste from Bracknell Forest schools forms part of the Council's landfill allowance. It is therefore very important that schools, as well as householders, recycle and divert from landfill as much of that waste as possible. Currently landfill tax for 2011/12 is £56 per tonne and will increase by £8 year on year at least until 2014.

The next planned Waste analysis will be held in November 2013.

5.4 How to minimise the Amount of Waste Generated by Schools.

- Promote environmental awareness in all school activities to encourage waste minimisation, re-use and recycling.

- Encourage pupils to participate in recycling and re-use initiatives e.g. composting, keeping a wormery, re-using various materials for such things as arts/ and crafts etc.

- Audit the supply chain to identify those suppliers whose products come with significant amounts of un-necessary packaging that is simply thrown away. Include minimum packaging in the specifications for new supply contracts.

- Increase the amount of recycling and seek to reduce the number of residual waste bins used.

- The Council is able to offer special additional collect events for clothing and textiles to raise money for the school.

- The Council can arrange amnesty days for the collection of small household electrical items.

- As a waste minimisation exercise Bracknell Forest will be looking at those schools that appear to generate the largest volumes of residual waste against those who generate the least with a view to adopting best practice in waste minimisation across all schools.

- Both Bracknell Forest and its contractors SITA are happy to arrange to come along to schools to give presentations to pupils on waste and waste minimisation/recycling on a first come basis.

- Bracknell Forest Council will seek to contact school in 2012 with a view to assisting them in understanding their waste requirements and the need to divert as much as reasonably practicable away from landfill.

- Bracknell Forest Council is in a long term joint waste disposal partnership (known as Re3) with Reading and Wokingham Borough council and contractors WRG.

- Schools will be able to obtain educational information about waste and recycling by logging online www.re3schools.org.uk.

- The partnership also provides a visitors centre at each of its waste sites in Reading and Bracknell Forest, and schools have been able to visit these centres and see some of the waste sorting activities and learn about other recycling, and composting processes.

5.5 Contact

a) For further information or if there are any queries relating to the waste and recycling parts of this report please contact:

Eric Redford
Refuse Contract Management Officer
Tel: 01344 352516
Eric.Redford@bracknell-forest.gov.uk

Website:
http://www.bracknellforest.gov.uk/environment/env-waste-and-recycling.htm

Table 12 - Estimated Waste Production 2011/12 (Kg/pupil) (Landfill Only).

Primary Schools	Number of Pupils	How Many Bins	Estimated Total Waste Kg	Estimated Kg Per Pupil	Ranking*
Ascot Heath Infant & Junior	439	3	10488	23.89	1
Binfield CE Primary	409	4	13984	34.19	8
Birch Hill Primary	384	5	17480	45.52	17
College Town Infant	241	3	10488	43.51	16
College Town Junior	284	4	13984	49.23	18
Cranbourne Primary	186	2	6992	37.59	10
Crown Wood Primary	269	4	13984	51.98	25
Crowthorne CE Primary	203	3	10488	51.66	24
Fox Hill Primary	168	4	13984	83.23	28
Great Hollands Primary	330	9	31464	95.40	29
Harmans Water Primary	607	7	24472	40.31	12
Holly Spring Infant	190	2	6992	36.80	9
Holly Spring Junior	221	2	6992	31.63	4
Meadow Vale Primary	429	5	17480	40.74	13
New Scotland Hill Primary	205	3	10488	51.16	22
Owlsmoor Primary	464	5	17480	37.67	11
The Pines Primary	187	3	10488	56.08	26
Sandy Lane Primary	534	4	13984	26.16	3
St Joseph RC Primary	208	2	6992	33.61	7
St Margaret Clitherow Primary	210	2	6992	33.29	6
St Michaels Primary, Sandhurst	212	3	10488	49.47	19
St Michaels Primary, Easthampstead	244	3	10488	42.98	15
Uplands Primary	208	3	10488	50.42	21
Warfield CE Primary	210	3	10488	49.94	20
Whitegrove Primary	432	3	10488	24.27	2
Wildmoor Heath Primary	169	2	6992	41.37	14
Wildridings Primary	292	5	17480	59.86	27
St Mary's Primary, Winkfield	204	3	10488	51.41	23
Wooden Hill Primary	328	3	10488	31.97	5
Sub Totals	**8467**	**104**	**363584**	**n/a**	**n/a**
Special Schools					
Kennel Lane	174	5	17480	100.45	n/a
Sub Totals	**174**	**5**	17480	**n/a**	**n/a**
Secondary Schools					
Brakenhale	955	10	49680	52.02	6
Easthampstead Park	893	2 FEL	69055	49..96	3
Edgbarrow	1213	10	49680	40.95	1
Garth Hill	1382	2 FEL	69055	49..96	4
Ranelagh	923	8*	39749	43.06	2
Sandhurst	1082	11	54648	50.50	5
Sub Totals	**6448**	**39**	**331867**	**n/a**	**n/a**
Totals	**15219**	**148**	**701899**	**n/a**	**n/a**

* Rankings are based on kilograms per pupil of waste not recycled.

Table 13 - Estimated Waste Production 2011/12 (Kg/pupil) (Recycling only).

Primary Schools	Number of Pupils	How Many Bins	Estimated Total (Kg)	Estimated Recycled (Kg)	% of Total waste recycled	Ranking based on % waste recycled*
Ascot Heath Infant & Junior	439	2	14175	32.28	57.47	4
Binfield Primary	409	Woodside	5235	12.79	27.24	24
Birch Hill Primary	384	2	10935	28.47	38.48	14
College Infant School	241	2	4380	18.17	29.75	19
College Junior School	284	2	4380	15.42	23.85	27
Cranbourne Primary	186	4	6000	32.25	46.18	8
Crown Wood Primary	269	2	5595	20.79	28.57	21
Crowthorne CofE Primary	208	2	2880	13.84	21.54	28
Fox Hill Primary	168	2	5865	34.91	29.54	20
Great Hollands Primary	330	2	14190	43.00	31.06	16
Harmanswater Primary School	607	2	0	0	0	29
Holly Spring Infant	190	1	4890	25.73	41.15	11
Holly Spring Junior	221	1	4890	22.12	41.15	12
Meadow Vale Primary	429	2	7950	18.53	31.26	15
New Scotland Hill Primary	205	2	3345	16.31	24.18	25
Owlsmoor Primary	464	2	12780	27.54	42.23	9
The Pines Primary	187	1	7515	40.18	41.74	10
Sandy Lane Primary	534	2	9375	17.55	40.13	13
St Joseph RC Primary	208	2	13965	67.13	66.63	1
St Margaret Clitherow Primary	210	2	8145	38.78	53.80	5
St Michaels Primary, Sandhurst	212	2	4710	22.21	30.99	17
St Michaels Primary, Easthampstead	244	2	4710	19.30	30.99	18
Uplands Primary	208	2	3315	15.93	24.01	26
Warfield CE Primary	210	2	4140	19.71	28.30	23
Whitegrove Primary	442	2	9570	21.65	47.71	6
Wildmoor Heath School	169	Woodside	9570	56.62	57.78	3
Wildridings Primary	292	2	6375	21.83	26.72	22
Winkfield St Mary's Primary	204	2	8220	40.29	43.93	7
Wooden Hill Primary	328	2	16575	50.53	61.24	2
Sub Totals	**8467**	**53**	**213675**	**n/a**	**n/a**	**n/a**
Special Schools						
Kennel Lane	172	1	3060	17.79	14.89	n/a
Sub Totals	172	1	3060	n/a	n/a	n/a
Secondary Schools						
Brakenhale	995	Woodside	0	0	0	3
Easthampstead Park	983	provide	0	0	0	4
Edgbarrow	1213	Recycling	18210	15.01	26.82	1
Garth Hill	1382	Sacks	0	0	0	5
Ranelagh	923	for	0	0	0	6
Sandhurst	1082	all	14115	13.04	20.53	2
Sub Totals	**6578**	**0**	**32325**	n/a	n/a	n/a
Totals	**15217**	**54**	**249080**	n/a	n/a	n/a

* Rankings are based on the amount of waste diverted from landfill as a percentage of the total amount of waste generated by the school (Landfill & Recycling).

PART SIX - TRANSPORT

6.1 Scope

a) The report focuses on the mode of transport by which children travel to school.

b) Travel by pupils to and from school, during the school day for curriculum activities, after school for attending extra curricular activities, and staff travel, are all transport issues that a School Travel Plan can address.

6.2 Data

a) The data set out in Table 14 shows how children usually travel to school. The data was collected from returns of the school census in January 2011.

b) The mode of transport by which children attend school can be influenced by a wide range of factors including location, catchment, and public transport alternatives.

6.3 How you can reduce the impact of car based travel at your school

a) Use the School Travel Plan process to review the transport choices made by the school and the pupils and introduce measures that promote and encourage more sustainable travel modes.

b) Monitor and review the targets and actions in your School Travel Plan on an annual basis.

c) Engage with incentive schemes and promotional activities organised by the Council.

d) Use transport and the impact of transport as a topic for curriculum work.

6.4 Contacts

a) For further information contact:

Phillip Burke
Travel Plan Co-ordinator
Tel: 01344 351266
Email: phillip.burke@bracknell-forest.gov.uk

Table 14 - The percentage of children travelling to school by modes other than the car

School	Percentage of pupils travelling to school by means other than singly occupied car at January 2011	Rank	School Travel Plan
Secondary Schools			
Edgbarrow	86%	1	YES
Easthampstead Park	85%	2	YES
Sandhurst	82%	3	YES
Brakenhale	82%	3	YES
Garth Hill	72%	5	YES
Ranelagh CE	71%	6	YES
Primary Schools			
Great Hollands Primary	93%	1	YES
College Town Infant	86%	2	YES
Meadow Vale Primary	85%	3	YES
College Town Junior	81%	4	YES
Crown Wood Primary	81%	4	YES
Whitegrove Primary	78%	6	YES
Holly Spring Junior	78%	6	YES
Warfield CE Primary	78%	6	YES
Ascot Heath Infant	73%	9	YES
Fox Hill Primary	73%	9	YES
Sandy Lane Primary	72%	11	YES
Birch Hill Primary	70%	12	YES
St Michaels Easthampstead CE Aided Primary	70%	12	YES
Ascot Heath CE Junior	69%	14	YES
Harmans Water Primary	68%	15	YES
Owlsmoor Primary	65%	16	YES
New Scotland Hill Primary	64%	17	YES
Crowthorne CE Primary	61%	18	YES
The Pines	60%	19	YES
Holly Spring Infant and Nursery	60%	19	YES
Wooden Hill Primary	57%	21	YES
Wildmoor Heath	54%	22	YES
Winkfield St Mary's CE Primary	53%	23	YES
Uplands Primary	51%	24	YES
Binfield CE Primary	51%	24	YES
Wildridings Primary	46%	26	YES
Cranbourne Primary	45%	27	YES
St Michaels CE Aided Primary	34%	28	NO
St Margaret Clitherow Catholic Primary	34%	28	YES
St Josephs Catholic Primary	17%	30	YES

APPENDIX A

Bracknell Eco-Schools
April 2011

No.	School	Registered	Award	Date
1	Birch Hill Primary	30/09/05	Bronze	09/07
2	Harmans Water Primary	03/10/05	Bronze Silver	06/08 06/08
3	Uplands Primary	14/11/05	Bronze Silver	04/09 04/09
4	Great Hollands Primary	21/11/05	Bronze Silver	02/07 03/08
5	Warfield CE Primary	24/11/05	Bronze	10/06
6	Meadow Vale Primary	03/01/06	Bronze Silver	10/06 05/10
7	Sandy Lane Primary	27/01/06	Bronze Silver Green Flag	03/06 01/07 09/09
8	College Town Infant & Nursery	22/06/06	Bronze	11/07
9	Holly Spring Junior	06/10/06	Bronze	06/09
10	Wooden Hill Primary & Nursery	23/10/06	Bronze	11/07
11	College Town Junior	07/11/06	Bronze Silver	07/08 07/08
12	Ranelagh School	12/01/07	Bronze Silver	05/07 07/10
13	Ascot Heath Junior	02/02/07	Bronze Silver	02/07 05/08
14	New Scotland Hill Primary	02/02/07	Bronze	11/08
15	Broadmoor Primary	26/03/07	Bronze	12/08
16	Crown Wood Primary	21/05/07		
17	St Margaret Clitherow Catholic Primary	02/07/07	Bronze	06/09
18	Edgbarrow Secondary School	13/09/07	Bronze	07/09
19	St Micheal's CE Primary Easthampstead	13/11/07	Bronze	04/08
20	Sandhurst Secondary School	02/06/08		
21	Ascot Heath Infant	24/01/08	Bronze Silver	07/09 10/10
22	St. Jospeh's Primary	13/06/08		
23	Crowthorne Primary	16/06/08	Bronze	07/10
24	Whitegrove Primary	08/12/08		
25	The Rowans	24/03/09	Bronze	06/09
26	The Pines	27/04/09	Bronze	06/09
27	Wildridings Primary	18/05/09	Bronze	07/09
28	Binfield CE Primary	13/01/10		
29	Brakenhale School	26/04/11	Bronze	04/11

APPENDIX B

FORMULAE FOR ADJUSTING ENERGY CONSUMPTION DATA FOR AMBIENT TEMPERATURE

1. Conversion Factors as supplied by Defra

   a) Fuel Oil

   Kerosene -10.28 kWh/litre
   Gas Oil -10.80 kWh/litre

   b) Carbon Dioxide Emission Factors

Fuel Type	CO_2 Emission Factor ($kgCO_{2e}$/kWh)
Grid Electricity	0.5246
Natural Gas	0.1836
Fuel oil	0.2674
Wood pellets	0.03895

2. Corrections for ambient temperature (Ref: DfES Energy and Water Benchmarks for Maintained Schools in England 2002-03.)

   Differences in temperature across the country can affect the amount of fuel required for heating. England is divided into Degree Day Regions. In each region, for every day the temperature falls below 15.5 degrees Celsius the magnitude of the difference was recorded. These deviations are aggregated over the year. The 20 year national average using this method is 1913.

   The following calculation was carried out on each school;

   (Fossil fuel consumption* 0.75*(1913/DD) + (Fossil fuel consumption*0.25),

   Where DD is the sum of the deviations below 15.5 degrees over a year and Fossil fuels are oil and gas consumption.

   Degree Days

Year	Degree Days
2010/11	2189
2009/10	2006
2008/09	1921
2007/08	1653
2006/07	1463
2005/06	1869
2004/05	1703
2003/04	1740

   Effectively, 2009/10 and 2010/11 were the coldest years over the last eight years.

APPENDIX C

Weather Corrected consumption kWh/m2

School	Rank	Floor Area m2		Weather Corrected Consumption kWh/m2			
Primary Schools		**2009/10**	**2010/11**	**2007/08**	**2008/09**	**2009/10**	**2010/11**
Harmanswater Primary	1	3,512	3,512	125.81	149.79	122.66	114.17
College Town Junior	2	1,782	1,782	116.15	112.08	123.86	116.60
St Margaret Clitherow RC Primary (VA)	3	1,144	1,144	140.56	135.81	124.60	118.42
Fox Hill Primary (incl. Rowans Childs Centre)	4	2,047	2,047	147.62	146.53	135.07	126.51
Owlsmoor Primary	5	2,315	2,315	131.59	132.44	146.15	127.56
New Scotland Hill Primary	6	1,362	1,362	142.93	139.21	137.34	129.81
The Pines(Excludes Behaviour Support)	7	1,827	1,827	136.64	133.43	129.35	132.52
Uplands Primary	8	1,432	1,432	159.26	150.40	138.70	135.34
Ascot Heath Infant	9	925	925	117.11	117.28	123.83	138.47
Wildridings Primary	10	2,739	2,739	174.48	145.81	166.28	139.02
St Michaels CE Primary, S'hurst (VA)	11	1,322	1,322	165.06	149.13	157.32	139.03
St Josephs RC Primary (VA)	12	1,374	1,374	161.31	144.42	140.62	144.52
St Michaels CE Primary, E'hamp (VA)	13	1,386	1,386	226.50	203.25	137.69	145.30
Binfield CE Primary (VA)	14	2,138	2,138	148.80	169.38	148.89	148.36
Birch Hill Primary	15	2,416	2,416	165.98	156.98	154.23	149.30
Wooden Hill Primary	16	1,896	1,896	167.38	173.91	151.99	150.11
Wildmoor Heath School	17	1,094	1,094	131.16	173.52	137.02	150.17
Winkfield St Marys CE Primary	18	1,036	1,036	173.51	210.52	176.14	152.90
Warfield CE Primary	19	1,413	1,413	201.92	211.43	189.88	157.13
Ascot Heath Junior	20	1,416	1,416	175.63	182.00	166.27	161.07
Whitegrove Primary	21	2,292	2,292	184.50	174.97	193.16	162.70
College Town Infant (Includes Alders)	22	1,682	1,682	190.03	176.06	186.40	165.88
Meadow Vale	23	3,099	3,099	167.67	168.48	169.09	165.91
Sandy Lane Primary	24	3,258	3,379	148.55	142.12	145.30	166.31
Crown Wood Primary	25	2,298	2,298	174.96	173.51	174.83	166.93
Holly Spring Junior	26	1,300	1,300	198.40	202.36	208.84	173.55
Great Hollands Primary	27	3,295	3,295	194.23	210.40	198.32	178.07
Crowthorne CE Primary	28	1,182	1,182	152.73	185.09	176.58	179.21
Holly Spring Infant	29	1,071	1,071	153.52	176.64	180.64	183.30
Cranbourne Primary	30	1,421	1,421	231.20	196.17	210.16	192.62
Sub Totals		***55,472***	***55,593***	***162.44***	***163.66***	***158.44***	***150.10***
Special Schools	**Rank**	**2009/10**	**2010/11**	**2007/08**	**2008/09**	**2009/10**	**2010/11**
Kennel Lane (Special School)		3,530	3,530	332.24	309.22	300.90	287.97
Secondary Schools	**Rank**		**2010/11**	**2007/08**	**2008/09**	**2009/10**	**2010/11**
Edgbarrow Comp (Excludes Sp Cen)	1	8,247	10,202	159.20	174.03	160.76	128.09
Brakenhale Comp (excl. OLC)	2	11,075	11,764	213.44	165.30	166.86	140.35
Easthampstead Park Comp	3	13,147	13,147	179.15	155.45	147.73	146.96
Sandhurst Comp (incl. Sp Cen)	4	9,825	9,825	152.10	161.67	162.99	161.52
Ranelagh CE (VA)	5	11,469	11,469	165.33	182.76	194.43	162.59
Garth Hill College	6	12,615	13,016	136.49	142.42	136.47	177.25
Sub Totals		***66,377***	***69,423***	***169.26***	***162.57***	***160.73***	***153.39***
Totals		**125,379**	**128,546**	***170.75***	***167.19***	***163.66***	***155.66***

APPENDIX D

THE WHOLE SCHOOL APPROACH

PROVIDED BY THE CARBON TRUST

The Carbon Trust provides the Whole School Approach which is a template for an energy management process in a school. The process is inclusive and is designed to engage with governors, senior managers, site managers and pupils together to save energy. The process begins with self-assessment in the form of a walk round survey, and an evaluation of current performance against a standard matrix. The scheme also includes resources to link education about energy with the curriculum and ideas for simple energy efficiency measures.

Details of the Scheme can be accessed via the Carbon Trust Website http://www.carbontrust.co.uk/Publications/pages/publicationdetail.aspx?id=CTV037

A sample energy policy for schools is shown in Appendix E

Further publications can be downloaded from the Carbon Trust website:

CTV019	School Sectors Overview
GIL 147	School Fact Sheet
CTL067	Walk around checklist - Schools
ECG073	Saving energy in schools. A guide for headteachers, governors, premises managers and school energy managers
CTV023	Practical Energy Management Overview
CTL003	Assessing energy the use in your building fact sheet.

This same inclusive approach to energy can also be applied to the other aspects of environmental management in schools.

APPENDIX E

Sample Energy Management Policy Statement

……School is committed to the responsible management of energy and water.

By efficient management of these resources the school aims to minimise expenditure and environmental impact while maintaining health and safety standards and an acceptable comfort level for staff, pupils and other building users.

Targets

Target energy/water performance is as follows:

	Current Performance (last school year)	Target Performance (current school year)	Target % Reduction
Electricity kWh/m²/annum			
Gas kWh/m²/annum			
Oil kWh/m²/annum			
Water m³/pupil/annum			

Strategy

This policy statement will be implemented through a ten point plan:

1. Responsibility

The overall responsibility lies with the Headteacher, …….. Day-to-day energy management responsibilities lie with ……..working in conjunction with the policy and direction set by the School Energy Team.

Policy, strategy and targets for energy management will be the responsibility of the School Energy Team which currently consists of:

…… - Head/Deputy
…… - Caretaker/Site Manager
…… - Bursar/Administrator
…… - Teacher
…… - Governor
…… - Pupil

The School Energy Team will meet quarterly to review progress, plan initiatives and prepare an annual energy report for submission to the Board of Governors. This will supplement the Schools Annual Environmental Management Report sent to all schools by Admissions and Property.

Teachers will have a responsibility to set a good example to pupils who can also make a significant contribution to end-use energy efficiency.

Energy efficiency advice for schools is available from the Council's Energy Manager, Steven Milne, on 01344 351518, e-mail steven.milne@bracknell-forest.gov.uk

2. Energy Selection and Purchase

Energy purchase is currently undertaken by Bracknell Forest Council through a framework contract administered by Buying Solutions (formerly the Office of Government Commerce). The Council's Energy Management Team will check invoices monthly against meter readings for gas, electricity and water.

3. Investment in Energy Efficiency

The school aims to invest in energy saving schemes of less than £1,000 with paybacks of less than three years. Savings achieved by good housekeeping measures will be reinvested in energy efficiency projects.

Where available, grants will be sought to improve energy efficiency, including the Council's invest-to-save scheme for projects meeting the qualifying criteria.

4. Design

Energy efficiency will be taken into account at the design of new building projects and any refurbishment in accordance with the Local Development Framework and current building standards.

Energy efficiency will be considered in the purchase of all new equipment, e.g. computers, catering equipment, in accordance with Government Buying Standards per Council Procurement Policy.

5. Energy Information

Electricity, gas and water consumption will be monitored monthly using Systems Link energy management software. Abnormal consumption will be investigated and corrective action taken. Each year realistic energy reduction targets will be set and monitored regularly. Targets will be set relative to past performance and DCSF quartile performance benchmarks shown in the Bracknell Forest Schools Annual Environmental Management Report.

Larger schools will also be able to use their Display Energy Certificate to compare their energy use to national averages and to see how energy use has changed from the previous year. Consideration should be given to the energy saving measures recommended in the associated Advisory Report.

6. Maintenance

Energy conversion plant, distribution systems and energy using equipment will be correctly maintained to avoid energy and water wastage.

7. Awareness

The school will adopt a Whole School Approach involving everyone associated with the school.

Regular awareness initiatives for staff and pupils will emphasise the cost and environmental benefits of saving energy and water and how to avoid waste. Energy saving information will be provided to catering and cleaning staff. Staff and pupils will also be provided with information on how to save energy at home.

Energy Co-ordinators will be appointed with checklists for good housekeeping initiatives.

8. Curriculum

The National Curriculum will be reviewed annually, using literature from Teachernet to ensure that the energy element is built into syllabi at appropriate levels.

9. Reporting

An annual energy performance report will be prepared by the School Energy Team. This will be submitted to the Board of Governors and a summary will be incorporated into the school annual report and school development plan.

10. Policy Review Mechanism

This policy will be reviewed and updated annually by the School Energy Team and included in the annual report.

APPENDIX F

UNIT RATES AND STANDING CHARGES FOR WATER AND SEWERAGE

SOUTH EAST WATER

Unit rates

Pence / cubic metre		
Year	Water	Sewerage*
2007-08	79.96	48.57
2008-09	82.37	51.93
2009-10	84.68	55.76
2010-11	90.72	53.35

Standing charges (for 12 months)

Pipe Size	2007/08		2008/09		2009/10		2010/11	
(mm)	Water	Sewerage	Water	Sewerage	Water	Sewerage	Water	Sewerage
15	£15.00	£42.00	£17.03	£45.00	£18.00	£47.00	£21.00	£46.00
20	£15.00	£95.00	£17.03	£101.00	£18.00	£106.00	£33.60	£104.00
25	£15.00	£168.00	£17.03	£180.00	£18.00	£188.00	£40.20	£184.00
30	£120.00	£263.00	£120.00	£281.00	£120.00	£294.00	£48.00	£288.00
40	£170.00	£378.00	£170.00	£405.00	£168.00	£423.00	£58.20	£414.00
50	£300.00	£672.00	£300.00	£726.00	£300.00	£752.00	£178.20	£736.00

VEOLIA WATER

Unit rates

Pence / cubic metre		
Year	Water	Sewerage*
2007-08	84.1	48.57
2008-09	87.52	51.93
2009-10	91.22	55.76
2010-11	91.01	53.35

Standing charges (for 12 months)

Pipe Size	2007/08		2008/09		2009/10		2010/11	
(mm)	Water	Sewerage	Water	Sewerage	Water	Sewerage	Water	Sewerage
15	£26.00	£43.00	£27.00	£45.00	£28.20	£47.00	£28.08	£46.00
20	£26.00	£97.00	£27.00	£101.00	£28.20	£106.00	£28.08	£104.00
25	£26.00	£172.00	£27.00	£180.00	£28.20	£188.00	£28.08	£184.00
30	£105.00	£269.00	£109.00	£281.00	£114.00	£294.00	£114.00	£288.00
40	£176.00	£387.00	£182.00	£405.00	£189.00	£423.00	£189.00	£414.00
50	£204.00	£688.00	£212.00	£726.00	£221.00	£752.00	£220.00	£736.00

* *Both companies are using Thames Water for Sewerage*

APPENDIX G

DISPLAY ENERGY CERTIFICATES

As of January 09 all public buildings over 1000m^2 are required to have a Display Energy Certificate and an Advisory Report. The Certificate is to be renewed on an annual basis but the advisory report is only required every seven years. However as October 09 all second year DEC's are required to be carried on a building basis rather than a site campus basis. In addition an advisory report is required for each building rather than site. As such each building is to have its energy use measured. For some schools up to five DEC energy certificates are required. For ease of comparison the average site DEC rating is used for comparison purposes in the following table.

The Display Energy Certificate provides an energy rating of a building where A is very efficient and G is least efficient and is based on the useable floor area, the operational hours, and the metered actual energy use over the assessment period.

The Advisory Report is a walk round energy audit by the qualified assessor (since October 2009 this has been the Energy manager) identifying opportunities by which the building can reduce its energy and carbon dioxide emissions. These opportunities are identified in terms of low, medium and high cost measures.

The Certificate ratings are shown overleaf and are ranked from good 'C' to poor 'G' performance. It should be noted that these results can differ in some cases from those listed in APPENDIX A -D. This is mainly due to method of assessment in that hours of occupation and accuracy of data are taken into account. In addition the assessment period is different in that the DEC is based on the period September 08 to October 09.

DEC RATINGS

As shown in the following tables for schools, the majority of second year DECs show an improvement in the energy performance of schools. Only eight schools received a worse rating than the previous year.

However as the majority of Schools buildings only obtained a DEC rating of 76-100 (typical) it is considered that there remains considerable scope for improvement in schools. Moreover fourteen schools (mostly oil heated) have an E 101 rating or worse.

For oil heated schools, the improvement in DEC rating is largely due to the implementation of oil gauge reads allowing accurate oil consumption to be calculated. The 'G' rating of Sandy lane Primary school is due to the faulty electricity meter, which has since been replaced.

ADVISORY REPORTS

The following recommendations were common to the majority of schools.

1. **Frequent Advisory Report Recommendations**
2. No energy awareness on site, no energy policy/strategy, good housekeeping or energy champion allocated
3. Boiler plant /controls over 15 years old

4. Lighting switch-start or soft start fittings greater than 15 years old-few high frequency fittings.
5. No lighting controls or controls fitted which do not allow user to switch off when adequate daylight
6. Excessive temperature and time settings for school occupation-space sensors located in coldest rooms.
7. No individual building gas and electricity meters to enable accurate DEC to be calculated even in recent installed buildings
8. No means of space temperature control in individual classrooms -no TRVs or zone control.
9. Loft insulation no greater than 50-100mm
10. Single glazed windows and curtain walling
11. On new build additions new controls are added which are not conducive with existing BEMS on main building
12. Un-insulated pipe work and valves in boiler house
13. Poorly fitting doors

How can Sites improve their DEC Rating?

1. Adopt energy management measures as recommended in advisory report.
2. Submit monthly gas and electricity readings into the Systemslink website- inaccurate data or estimates may result in a G rating.
3. Ensure renewables when installed are metered, so the energy they produce can be quantified and hence rewarded in the DEC.
4. Oil/biomass users should take gauge readings on a monthly basis to ensure that the oil/biomass that is being actually used is quantified. Without gauge readings, the total volume of the tank is required to be added to the delivery volume.
5. Install sub metering in campus sites to ensure the operational rating reflects the actual energy use of the building in question.

Appendix G

Display Energy Certificate Ratings

Site Name	Rank	2008/09		2009/10		2010/11		% + / -
		Score	Grade	Score	Grade	Score	Grade	
Primary Schools								
Owlsmoor Primary School	1	70	C	74	C	72	C	-3%
Foxhill Primary School	2	138	F	82	D	75	C	-9%
The Pines School	3	153	G	78	D	76	D	-3%
St Margaret Clitherow VA Catholic Primary	4	n/a	n/a	81	D	79	D	-2%
New Scotland Hill Primary School	5	81	D	77	D	81	D	5%
Wildmoor Heath School	6	74	C	88	D	84	D	-5%
Wildridings Primary School	7	133	F	102	E	87	D	-15%
Birch Hill Primary School	8	89	D	84	D	88	D	5%
Ascot Heath Church of England Junior School	9	126	F	94	D	88	D	-6%
St Michael's Easthampstead CE VA Primary School	10	200	G	94	D	89	D	-5%
College Town Infants And Nursery School	11	82	D	91	D	91	D	0%
Harmans water Primary School	12	100	D	105	E	91	D	-13%
College Town Junior School	13	108	E	82	D	91	D	11%
Binfield Church of England Primary School	14	95	D	95	D	93	D	-2%
Whitegrove Primary School	15	101	E	96	D	94	D	-2%
Crowthorne Church of England Primary	16	97	D	96	D	95	D	-1%
Wooden Hill Primary And Nursery School	17	93	D	94	D	96	D	2%
St Michael's Sandhurst CE VA Primary School	18	162	G	110	E	96	D	-13%
Sandy Lane Primary School	19	200	G	200	G	96	D	-52%
Crownwood Primary School	20	92	D	97	D	97	D	0%
Uplands Primary School	21	121	E	113	E	99	D	-12%
St Joseph's Catholic VA Primary School	22	n/a	n/a	126	F	99	D	-21%
Meadow Vale Primary School	23	127	F	93	D	102	E	10%
Holly springs Junior School	24	157	G	146	F	106	E	-27%
Warfield Primary School	25	115	E	105	E	109	E	4%
Cranbourne Primary School	26	140	F	121	E	110	E	-9%
Great Hollands Primary School	27	129	F	106	E	112	E	6%
Special Schools								
Kennel Lane School*	1	103	E	98	D	93	D	-5%
Secondary Schools								
Easthampstead Park School*	1	96	D	88	D	85	D	-3%
The Brakenhale School*	2	133	F	106	E	94	D	-11%
Ranelagh Church of England School*	3	97	D	107	E	98	D	-8%
Edgbarrow School*	4	86	D	99	D	100	D	1%
Garth Hilll College	5	n/a	n/a	n/a	n/a	106	E	n/a
Sandhurst School*	6	101	E	128	F	121	E	-5%

Appendix H

USE OF SYSTEMSLINK ENERGY & WATER MONITORING

Site	Using Systems Link		Reason for Not submitting Water Readings
	Energy 10/11	Water 10/11	
Ascot Heath Infant school	Y	N	Meter off school grounds in private garden.
Ascot Heath Junior school	Y	Y	
Binfield CE Primary (VA)	Y	Y	
Birch Hill Primary school	Y	Y	
College Town Infant school	Y	N	
College Town Junior school	Y	Y	
Cranbourne Primary school	Y	Y	
Crown Wood Primary school	Y	Y	
Crowthorne CE Primary school	Y	N	
Fox Hill Primary school	Y	Y	.
Great Hollands School	Y	N	
Harmans Water Primary school	Y	Y	
Holly Spring Infant school	Y	N	
Holly Spring Junior school	Y	N	
Meadow Vale school	Y	Y	
New Scotland Hill Primary school	Y	N	
Owlsmoor Primary school	Y	N	
Pines School (The)	Y	Y	
Sandy Lane Primary	Y	Y	
St Josephs RC Primary (VA)	Y	Y	
St Margaret Clitherow RC Primary (VA)	Y	Y	
St Michaels CE Primary, E'hamp (VA)	Y	Y	
St Michaels CE Primary, S'hurst (VA)	Y	Y	
Uplands Primary school	Y	Y	
Warfield CE Primary school	Y	Y	
Whitegrove Primary school	Y	N	
Wildmoor Heath School	Y	N	
Wildridings Primary school	Y	N	
Winkfield St Marys CE Primary school	Y	N	
Wooden Hill Primary school	Y	Y	
Special Schools			
Kennel Lane school (Special School)	Y	N	Meter inaccessible as in middle of hedge.
Secondary Schools			
Brakenhale	Y	Y	
Easthampstead Park	Y	Y	
Edgbarrow school	Y	Y	
Garth Hill College	Y	Y	
Ranelagh CE School (VA)	Y	Y	
Sandhurst (Includes Sp Cen)	Y	Y	