Education, Children and Families Committee

10am, Tuesday, 6 October 2015

Energy in Schools Annual Report

Item number 8.3

Report number

Executive/routine

Wards All

Executive summary

This report provides an overview of 2014/15 energy use across the Council's School estate, and provides an update on energy/carbon reduction projects. The report follows on from the **Energy in Schools Report** in September 2014.

Consumption across the school estate is largely stable. There has been a small variation in consumption due to new properties opening and efficiencies from capital works and energy audits. However, the ongoing projects detailed within this report have the potential to deliver tangible and significant energy and carbon reductions across the school estate.

Links

Coalition pledges P50

Council outcomes CO18 CO25
Single Outcome Agreement SO3 SO4



Report

Energy in Schools Report

Recommendations

That Committee:-

- 1.1 Notes the content of this report and, in particular, progress made against key energy efficiency projects; and
- 1.2 Notes that an annual progress report will be submitted to committee in 2016 on Energy in Schools.

Background

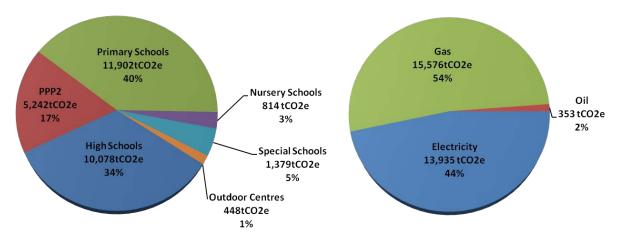
- 2.1 The Council expenditure on energy across operational buildings in 2014/15 was £12m. The Children and Families estate is the largest estate in the Council, and is the single highest energy user accounting for over half of the total energy spend.
- 2.2 Due to low oil prices, the whole-sale cost of electricity and gas has remained comparatively low. This has had a positive influence on the rate charged for gas and, to a lesser extent, electricity. However, the charges associated with transmission and distribution of electricity, and other associated levies, continue to increase, resulting in a year-on-year increase in electricity costs despite the lower wholesale cost.
- 2.3 There are a number of legislative drivers for carbon reduction across the Council's estate. These include the <u>Carbon Reduction Commitment Energy Efficiency Scheme</u> (CRC) and the <u>Energy Performance in Buildings Directive</u> (EPBD). The Council also has a published <u>Energy Policy</u> which defines its approach to energy management.
- 2.4 The pressure placed on energy reduction targets across the school estate through rising school rolls, and increased service delivery, are expected to continue.
- 2.5 This report details a number of projects that focus on energy and carbon reduction across the school estate. The three major projects, Edinburgh Community Solar Co-operative, RE:FIT and the Building Energy Management System upgrade, are expected to progress from a development phase to delivery over the course of the next year.
- 2.6 An <u>Energy in School Report</u> was considered by Committee in September 2014, and this report provides the 2015 review.

Main report

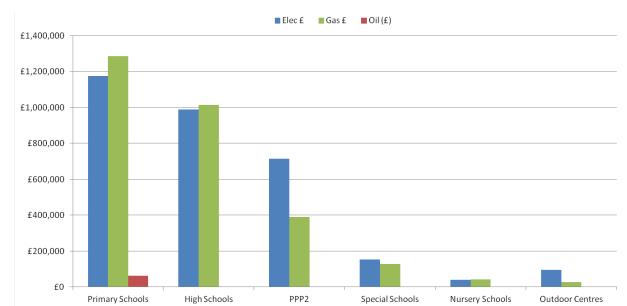
Consumption Monitoring

- 3.1 This section of the report gives an overview of energy consumption, and associated carbon emissions across the school estate. The data includes details on the Council's PPP2 estate, where the Council pays directly for energy consumed, but excludes details from Edinburgh Partnership schools.
- 3.2 Case study examples of energy reductions achieved in the school estate are listed in Appendix 1. The reductions are a direct result of interventions carried out following energy audits by Corporate Property.

Graph 1: 2014/15 Carbon Emissions by Property Type and Fuel Type

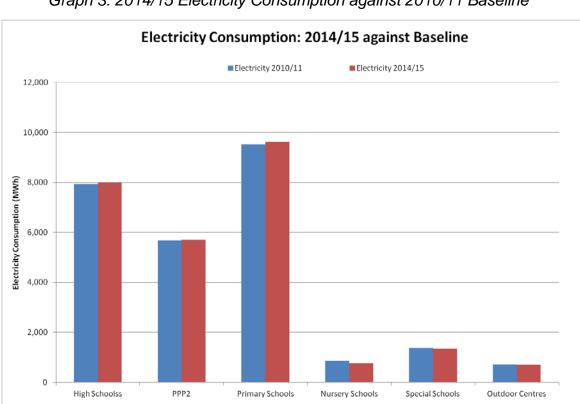


- 3.3 The two charts above provide a breakdown of energy related carbon emissions across the Council's school estate. In total, the school estate accounts for 29,863 tonnes of CO2e representing 54% of the Council's total building related CO2 emissions.
- 3.4 The Council spent around £6m in 2014/15 on electricity and gas across the school estate with an additional £0.46m spent on the purchase of carbon allowances under the Carbon Reduction Commitment Energy Efficiency Scheme. A breakdown of spend by property group is included below:



Graph 2: Annual Energy Spend by Property Group

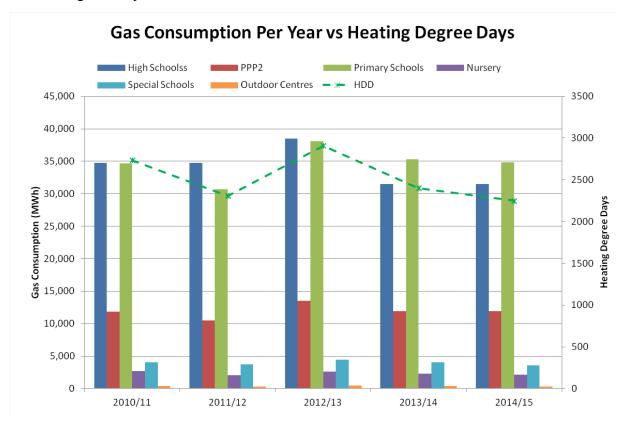
3.5 As can be seen from Graph 2, across the majority of buildings, gas and electricity spend are similar. PPP2 properties have all been built within the last decade and therefore have a far higher thermal efficiency and a lower corresponding gas spend.



Graph 3: 2014/15 Electricity Consumption against 2010/11 Baseline

3.6 Compared against the 2010/11 baseline, there has been a marginal 1% increase in electricity consumption across the primary school, high school and PPP2 estates. The remainder of the school estate has experienced a slight decrease in electricity consumption against the 2010/11 baseline. Given the minor scale of change, consumption is considered to be stable across the estate.

Graph 4: 2010/11 to 2014/15 Gas Consumption correlated against Heating Degree Days



- 3.7 Gas use across the school estate is predominantly used for space heating. The requirement for space heating in a building is directly proportional to the severity of the weather. To allow for 2014/15 gas consumption to be reviewed in context it has been presented alongside historic gas consumption from 2010/11 onwards and correlated against heating degree days (HDD), which is a metric for quantifying the severity of weather conditions in relation to space heating requirements.
- 3.8 Gas consumption across the school estate has largely followed weather conditions. There are some exceptions to this, such as in the high school estate in 2011/12 and the primary school estate from 2013/14. Liberton High School had heating issues in 2012/13 and hence caused higher than expected consumption. From 2013/14 there has been a sustained reduction in gas use in the high school estate. The refurbishment of James Gillespie's HS resulted in a reduction in associated gas use even after gas consumption for Darroch Centre was incorporated. Additional reductions have been achieved through improved heating control at Portobello HS and Liberton HS and a boiler upgrade at Wester Hailes Education Centre. The primary school estate from 2013/14 had higher

than expected consumption. The opening of Bun-Sgoil Taobh Na Pairce in 2013 and the conversion of Gracemount and Abbeyhill Primary Schools from oil to gas heating in 2011 and 2014 respectively accounts for a proportion of the increase. In future years, it may be necessary to review the baseload consumption to account for these changes. It should be noted that the existing poor condition of many of the Council's Building Management Systems (which manage the control of heating and ventilation plant) continues to restrict the level of efficient heating control across the school estate.

3.9 A breakdown of 2014/15 energy consumption data against the 2010/11 baseline is available in Appendix 2.

Edinburgh Community Solar Co-operative

- 3.10 The Council have approved a proposal from Edinburgh Community Solar Cooperative (ECSC) to install community-owned solar photovoltaic (PV) panels on Council-owned roofs. Under the scheme, ECSC will procure, install and manage solar PV panels sited on the roofs of up to 25 Council buildings.
- 3.11 The installation of the solar PV panels will be funded through a public share offer. The return on investment for the co-operative will be generated from Feed in Tariff (FiT) payments from OFGEM, as well as from payments made by the Council (at a preferential rate) for electricity consumed by the building hosting the PV system. The surplus revenue generated by the co-operative will be reinvested into the local community through a community benefit fund.
- 3.12 Following a desktop exercise, ECSC commissioned scoping surveys of a number of Council buildings, and identified a preferred list of 29 buildings with outline suitability. When funding is in place, ECSC will carry out detailed structural surveys of the buildings to confirm suitability. A final list of buildings for inclusion will then be confirmed. Once design proposals have been approved by the Council, ECSC will progress with installation. The original outline list of buildings has been included for reference at Appendix 3. This list was categorised into 25 properties, and 4 reserve buildings. This list will remain subject to change until all surveys and design work has been completed.
- 3.13 There are direct benefits for schools involved. A portion of the profit will be made available to buildings included in the scheme. Display boards will be installed in properties showing PV output for educational purposes. ECSC will work with the buildings to help deliver educational projects. On a broader level, ECSC are keen to engage with wider communities. It is also anticipated that links can be made to education materials, included within the Small Steps Campaign, so that learning outcomes and key messages can be shared across the school estate.

Building Energy Management Systems (BEMS)

3.14 A Building Energy Management System (BEMS) is a computer-based system that controls the main mechanical and electrical services within a building. The Council has an extensive portfolio of BEMS, including all High Schools and the majority of Primary Schools. The successful implementation and operation of a

- BEMS allows improved building performance and can lead to substantial energy savings.
- 3.15 As detailed in previous Schools Energy Reports, the Council's BEMS are in urgent need of upgrading/replacement. Many systems are ageing and not functioning correctly with some systems now obsolete, making it difficult to source replacement components.
- 3.16 As outlined in Appendix 1, progress has been made in some select BEMS properties by reviewing the existing set up and programming. These works have delivered tangible savings. However, there is still a significant opportunity for energy efficiency and carbon reduction by modernising and standardising the Council's approach to BEMS.
- 3.17 Following on from the production of the outline Business Case, a project to renew BEMS across the Council's Operational estate (including schools) has been initiated through the Strategic Asset Management works delivered by Corporate Property.
- 3.18 There will be three key areas of focus: properties with obsolete BEMS in place; properties with high energy consumption, and; properties with modern BEMS that have not been properly set up. The upgrade programme will deliver energy efficiencies, operational efficiencies and greater resilience across the estate.
- 3.19 The total cost for delivering an improved BEMS estate is estimated at £3.2m. Through this investment and the implementation of a BEMS strategy it is projected that the Council could save up to £600k per annum on gas and electricity, as well as delivering a number of operational efficiencies such as holiday exception programming, removing issues with obsolete components and reducing onsite maintenance/fault finding.
- 3.20 If the Council does not invest in an improved BEMS, it will fail to deliver best value in terms of money invested in BEMS reactively (in terms of continual servicing/maintenance of the schools estate). It may also fail to meet energy and carbon reduction targets.

RE:FIT

- 3.21 The Council, has signed up to the London RE:FIT framework. The scheme has been designed to help public sector organisations achieve substantial financial savings, improve the energy performance of their buildings and reduce their carbon footprint.
- 3.22 Working in partnership with the Scottish Government and Scottish Futures Trust, the Council is running a pilot across nine key Council buildings, seven of which are schools. The benefits of the pilot and, any lessons learned from the scheme will be shared across other councils, and will inform the Council's option for further phases.

- 3.23 Under the scheme, the Council will engage with one of the RE:FIT framework contractors to identify and implement energy efficiency measures. The savings from the project will be guaranteed.
- 3.24 The Council set a target of a 17% reduction in energy consumption across the nine buildings, with a total project spend of £1.8m, and a corresponding payback of eight years. The project will be funded from the Council's spend to save fund.
- 3.25 The buildings included in the project are:
 - Balerno High School
 - City Chambers
 - Currie Community High School
 - Leith Academy
 - St Thomas of Aguins

- Sciennes Primary School
- Trinity Academy
- Usher Hall
- Wester Hailes Education Centre
- 3.26 Following the appointment of the contractor, the properties will be surveyed, in detail, to produce an Investment Grade Proposal (IGP), detailing energy efficiency measures, design/project details, and how guaranteed savings will measured and verified. It is expected that IGPs will be complete by early 2016. If the Council decides to progress with the IGP, it is anticipated that the majority of the works will be completed in 2016.
- 3.27 If successful, there is potential to include other buildings for future phases of the scheme.

Small Steps Energy Awareness Campaign

- 3.28 The second phase of the <u>Small Steps Awareness Campaign</u> was officially launched in September 2014. This followed on from a successful pilot energy awareness campaign in 2013/14. A <u>report</u> detailing the outcomes from the pilot campaign was submitted to Education, Children and Families Committee in May 2014.
- 3.29 The 18 schools involved in the second phase are listed below:
- Wester Hailes
 Education Centre
- Fox Covert PS (RC+ND)
- Broughton HS
- Nether Currie PS
- Prestonfield PS

- Gilmerton PS
- St Mary's RC PS
- Sciennes PS
- Corstorphine PS
- Craiglockhart PS
- Roseburn PS
- Towerbank PS

- Firrhill HS
- Liberton HS
- Panmure St Anns School
- Kaimes School
- St Ninians RC PS
- Davidsons Mains PS
- 3.30 The second phase of the campaign has built on the success of the pilot retaining much of the original form and structure. The time and effort invested under the pilot has provided a sound foundation for campaign growth.
- 3.31 A matrix detailing the campaign activities undertaken in each of the schools participating in the second phase is included within Appendix 4. This matrix is

- seen as a key way of determining campaign uptake and success. The matrix shows positive signs of widespread engagement from phase two. Some schools signed up to phase two of the campaign, but have only recently launched the campaign within their school so are yet to undertake activities.
- 3.32 In addition to regular campaign activities, the Council are also working in partnership with the University of Edinburgh on a research project called 'Enerchange'. The key aim of the project is to look at ways to embed knowledge on energy reduction in schools. As part of this work, three primary schools have completed an energy diary, that details energy consumption within their classroom over the course of a week. Edinburgh University intend to use this pilot programme to create an energy diary 'App' which can be rolled out across schools. The project raises awareness of energy use whilst also providing pupils with experience of data handling.
- 3.33 The target of 20 participating schools for the third phase was easily met through a mixture of word-of-mouth, and sign up from the Learning for Sustainability Conference. A total of 23 schools have signed up for the third phase with seven of those schools returning to the campaign having already taken part previous phases.

Energy Efficiency Works

- 3.34 Central Energy Efficiency Fund (CEEF) works (£0.275m) were carried out in schools during 2014/15 including the conversion of Abbeyhill Primary School from oil to natural gas.
- 3.35 During 2015/16, it has been necessary to shift focus to initiating more strategic projects, such as the RE:FIT project and BEMS Upgrade works, and only a few smaller works have been commissioned through CEEF. It is expected that CEEF will form a part of the funding matrix for elements of the BEMS upgrade works, and potential future phases of RE:FIT.
- 3.36 During 2015/16, boiler replacements, funded through the Strategic Asset Management programme, are being carried out at Carrick Knowe Primary School, Castlebrae High School, Clovenstone Primary School, Leith Academy and Leith Walk Primary School. These projects should deliver increased energy efficiency on site through improved boiler use.

Knowledge Transfer Partnership

- 3.37 As reported in last year's Energy in Schools report, Corporate Property has entered into a Knowledge Transfer Partnership (KTP) with the Scottish Energy Centre at Napier University. This is a three year partnership that will help develop a strategic long term approach to energy management within the operational estate.
- 3.38 In November 2014, Napier University employed a KTP Associate to work within the energy team in Corporate Property. Work carried out to date has included detailed benchmarking and profiling of the Council's estate, and Building

Information Modelling (BIM). Going forward, the project will review a range of technical solutions for improving energy efficiency across the Council's estate, ranging from short-term measures to long-term solutions, including lifecycle assessment. The long-term objective of the project is to create an investment prioritisation and implementation strategy for the Council's operational estate.

Measures of success

- 4.1 The Council continues to meet legislative requirements as set out in the Energy Performance of the Buildings Directive.
- 4.2 The Council continues to meet the reporting requirements as set out in the mandatory Carbon Reduction Commitment Energy Efficiency Scheme.
- 4.3 The Council continues to maintain an accurate record of energy consumption across the schools estate.
- 4.4 The Council demonstrates a reduction in energy consumption across the school estate.

Financial impact

- 5.1 The cost of energy across the school estate is significant accounting for around half of the Council's total building related energy spend. The effective management of energy across the school estate is critical to the prudent management of Council energy budgets.
- 5.2 The projects and activities detailed within this report have the potential to make a significant contribution to the reduction of energy consumption and corresponding spend across the Council's school estate.

Risk, policy, compliance and governance impact

- 6.1 The implementation of a structured energy awareness programme is in line with the ethos of the Council's Energy Policy and Energy Policy Action Plan.
- 6.2 Legislation has been used as a means to drive forward change to reflect EU targets on emission reduction. Increasingly legislators are looking towards public bodies adopting a planned response for to energy efficiency and carbon reduction. It is important that the Council is receptive and reactive to the likelihood of increased legislation, and develops plans and strategies to improve the efficiency of its built environment.
- 6.3 Whilst the Council benefits from a competitive energy contract it is still subject to the energy price trends. There is an opportunity to mitigate exposure to current price increases through increased awareness and energy efficiency.

Equalities impact

- 7.1 Appropriate energy management of school buildings will have a direct enhancement of rights. For example, appropriate management of indoor temperature will aid education and learning through improved thermal comfort.
- 7.2 Energy management within schools will focus on delivering environments that meet best practice guidelines as set out in the Council's Energy Policy. Thermal comfort is not a defined state. Some people will feel comfortable at certain temperatures whilst others may not.
- 7.3 The Small Steps energy awareness campaign has adopted a bespoke approach that allows schools to shape an appropriate campaign for their individual needs.

Sustainability impact

- 8.1 There is significant potential for sustainability benefits through appropriate energy management within the schools estate, including reduced consumption and associated carbon reduction.
- 8.2 The holistic approach to the Small Steps campaign provides a platform and structure that could be used to manage and deliver other sustainability messages.

Consultation and engagement

- 9.1 Corporate Property holds a monthly Energy Steering Group with Corporate Property Managers and representatives from the Corporate Governance and Economic Development.
- 9.2 Representatives from Corporate Property provide a regular update to the Carbon Climate and Sustainability Member/Officer Working Group.
- 9.3 Consultation is regularly undertaken with the Sustainable Development Unit to collaborate on shared objectives.
- 9.4 Consultation and joint working with Eco-schools representatives is ongoing as part of the Small Steps campaign.

Background reading/external references

<u>Energy Performance in Buildings Directive (Scotland) Amendment Regulations 2012</u> – This directive covers the requirements for Energy Performance Certificates in Scotland.

<u>Carbon Reduction Commitment Energy Efficiency Scheme (CRC)</u> – This website provides guidance on the CRC scheme.

John Bury

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Links

Coalition pledges	P50 - Meet greenhouse gas targets, including the national target of 42% by 2020.
Council outcomes	CO18 - Green – We reduce the local environmental impact of our consumption and production.
	CO25 - The Council has efficient and effective services that deliver on objectives.
Single Outcome Agreement	SO3 - Edinburgh's children and young people enjoy their childhood and fulfil their potential.
	SO4 - Edinburgh's communities are safer and have improved physical and social fabric.
Appendices	Appendix 1 – Energy Reduction Case Studies
	Appendix 2 – Supporting Energy Data
	Appendix 3 – List of Properties included on ECSC's outline list
	Appendix 4 – Small Steps Milestone Matrix

Appendix 1 – Energy Reduction Case Studies

From May 2014, Corporate Property has been operating a reactive programme to audit the operation of existing BEMS, with a view to making energy savings. Buildings have been targeted using the following criteria:

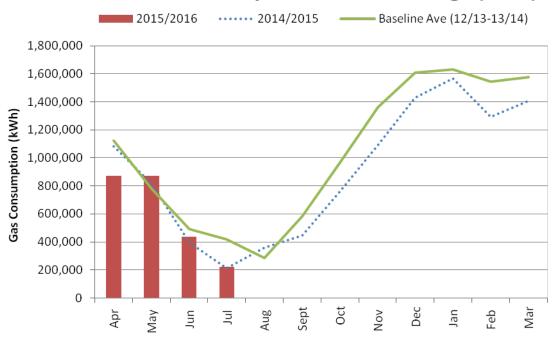
- High energy consumption/benchmarks;
- Smart meter consumption data profiles which did not reflect the expected energy demand;
- Reliable smart metering, allowing feedback on the alterations made, through the analysis of energy consumption profiles.

Consumption reductions are calculated by comparing energy consumption post intervention against average baseline energy consumption prior to intervention.

As part of audits, meetings with the building users were arranged to establish current building usage (opening hours), any existing issues with the heating system and identify possible solutions.

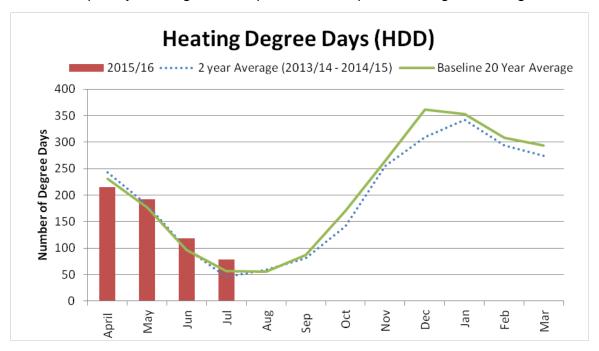
The graph below shows the reduction in gas use (when compared against baseline consumption) across all targeted properties since the programme began in May 2014.

Total Gas Consumption across Buildings (kWh)



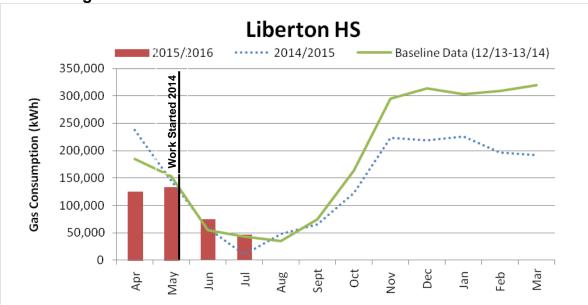
Heating Degree Day Analysis

Heating degree days are a measure of the severity and duration of cold weather and are a good metric for assessing the influence of weather on consumption. The colder the weather is in a given month, the larger the degree-day values for that month will be and consequently the larger the requirement for space heating in buildings.



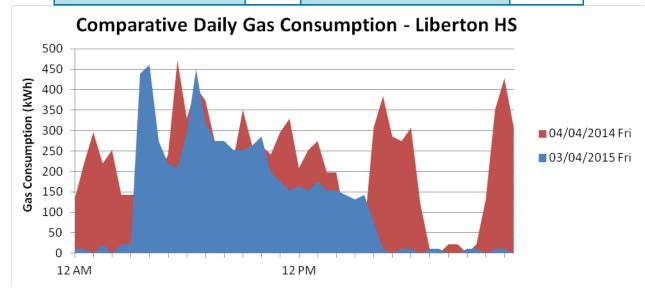
As indicated by the trend above, the overall number of degree days recorded during the first four months of 2015/16 is higher than average. To date 2015/16 has been 7% colder than average. This will have had a direct effect on the requirement for space heating.

Liberton High School

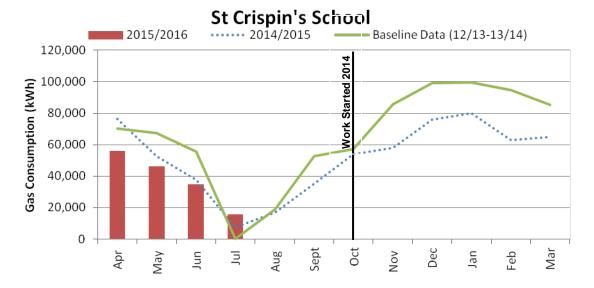


Issue:	High energy use and frequent reports of overheating
Action Taken:	Significant changes to BEMS time schedules and set points in agreement with school management.
Result:	Significant reduction in gas consumption reducing overheating and associated complaints. (Note – gym hall demolished October 2014 resulting in approx 7% reduction in floor area)
Comments:	Results were not immediately realised due to other factors requiring return visits to the property.

Annual Gas spend (£)	57,154	Annual Gas Consumption (kWh)	2,140,604
Estimated Annual Savings (£)	12,169	Estimated Savings (kWh)	455,807
Estimated % Savings	21%		

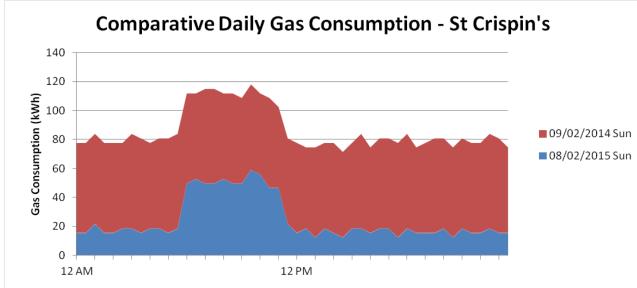


St Crispin's Special School



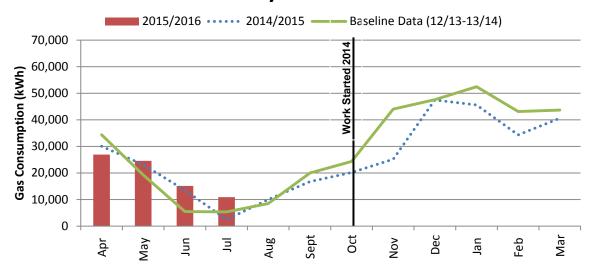
Issue:	School heating system running 24/7 from autumn through to early summer
Action Taken:	Alteration to BEMS removing weekend time schedules, altering set points and replacing a faulty actuator
Result:	Significant reduction in gas consumption and greater thermal comfort for building users
Comments:	Relative savings over June and July 2015 have been impacted by colder weather

Annual Gas spend (£)	20,998	Annual Gas Consumption (kWh)	786,426
Estimated Annual Savings (£)	5,072	Estimated Savings (kWh)	189,976
Estimated % Savings	24%		



Ferryhill Primary School

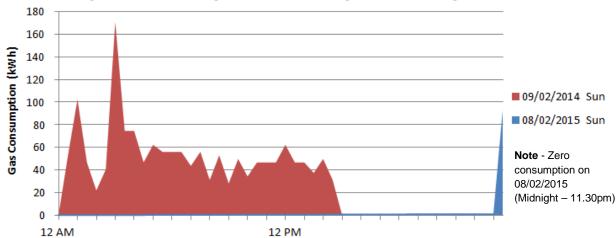
Ferryhill PS



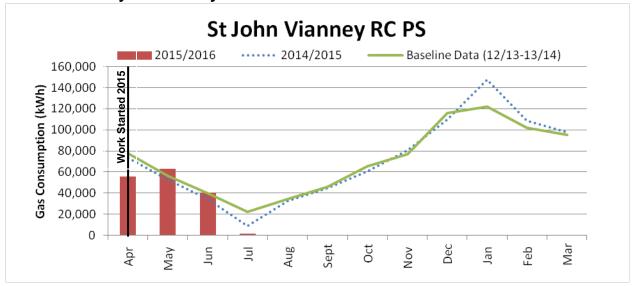
Issue:	Heating was scheduled to be on over weekends when the building was not in use.
Action Taken:	Alteration to the BEMS to remove the weekend time schedule, following discussions with staff
Result:	Reduction in gas consumption during the weekend period
Comments:	Recent colder weather has impacts on savings but good savings anticipated over coming months.

Annual Gas spend (£)	9,299	Annual Gas Consumption (kWh)	348,292
Estimated Annual Savings (£)	846.88	Estimated Savings (kWh)	31,718
Estimated % Savings	9%		

Comparative Daily Gas Consumption - Ferryhill PS

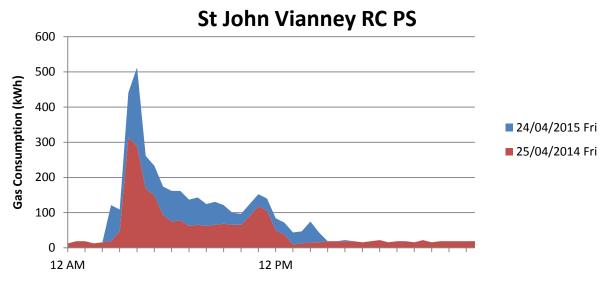


St John Vianney RC Primary School



Issue:	The boilers were running 24/7 due to control from the BEMS panel being bypassed
Action Taken:	Repair work carried out to reinstate the BEMS panel. Additional work undertaken to alter time schedules and optimise settings
Result:	Reduction in out-of-hours gas consumption
Comments:	Recent colder weather masked savings in May and June but good savings anticipated over coming months.

Annual Gas spend (£)	20,250	Annual Gas Consumption (kWh)	758,427
Full Year Savings (£)	4,216	Estimated Savings (kWh)	157,931
Estimated % Savings	20%		



Appendix 2 – Supporting Energy Data

			20	014/15				
Property Type	Electrici	ty	Gas		Oil		Heating Degree	
. reperty type	MWh	% Change (Baseline)	MWh	% Change (Baseline)	MWh	% Change (Baseline)	Days	
High School	7,990	1%	31,527	-9%	-		2010/11	2735
Primary Schools	9,622	1%	34,836	1%	-	-47%		
Nursery Schools	775	-10%	2,170	-19%	-	-	2014/15	2250
Special Schools	1,345	-2%	3,590	-11%	-	-100%		
Outdoor Centres	707	-2%	335	-18%	37		% Change :	-17%
TOTAL	20,238	-0.5%	71,517	-14.5%	1,284	-65.1%		

Appendix 3 - List of Properties included on ECSC's outline list

Cameron House Community Centre

Buckstone Primary School

Carrick Knowe Primary School

East Craigs Primary School

Currie High School

Redhall Primary School

Canal View Primary School

Dean Park Primary School

Tumbles at Portobello

Ratho Primary School

Davidsons Mains Primary School

Oaklands Special School

Clemirston Primary School

St Ninian's Primary School

Carrickvale Community Centre

Gylemuir Primary School

Currie Primary School

Woodlands School

Liberton Primary School

Cramond Primary School

Drumbrae Leisure Centre

Wardie Primary School

St Catherine's Primary School

Ainslie Park Leisure Centre

Trinity Academy

Blackhall Primary School on reserve list
Castleview Community Centre on reserve list
Craighall Day Centre on reserve list
Prospect Bank Special School on reserve list

Appendix 4 – Small Steps Milestone Matrix

						Workshop				npaign F	resen	ce	Additional Activities			
_{Stroot}	Redeentaii	<u>,</u>	anning	Meeth	of Bile	State	profit	Sug A	Series Lines	aved Others	The Sale of	No. of Lot	S Walks	outers Creetive	eregide de d	confinent
မင့် Broughton HS	Rachel Dines	✓ 🗸	X	\$ ⁶ / <	\$ / ⟨	×	X X	X	X	X .	X W	X	10	No	Started late s	
Corstorphine PS	Leslie Reilly	1	1	1	1	1	1	1	Х	1	1	1	38	Eco Fair	Excellent, th	
Craiglockhart PS	Stephen Digan/Gater Kendal	1	х	х	х	х	Х	Х	Х	Х	х	Х	Х	No	Campaign to be two years and h to third p	as signed up
Davidsons Mains	Diarmid Harris	х	х	х	х	х	х	х	х	Х	Х	х	0	No	Campaign to be two years and h to third p	staged over as signed up
Firrhill HS	Helen Barley	1	х	х	1	х	х	1	х	1	1	1	100	Creative day	Launched Ec programme and this ye	Schools Small Steps
Fox Covert PS (RC+ND)	Tonya Thomson	1	1	1	1	1	х	1	Х	Х	1	Х	57	Eco Fair	Started late s	oring 2015
Gilmerton PS	Karen Bolger	1	Х	х	х	х	х	х	х	х	х	х	0	No	Very active d phase of Smal maintained co through seco	Steps, has mmitment
Kaimes School	Catherine MacAuley	1	Х	Х	1	Х	1	1	Х	х	Х	Х	20	No	-	
Liberton HS	Fiona Lundius	х	Х	Х	х	х	х	1	х	Х	Х	1	0	Eco Fair	Highly succes pilot phase and through to sec	work carried
Nether Currie PS	Marion Milne	1	1	1	1	Х	Х	1	х	1	1	Х	41	Eco Fair	Good uptal motivated staf	
Panmure St Anns School	Eilidh Ferguson	1	1	1	1	Х	1	1	х	1	1	х	100	No	Positive app camapaign fro pupil	m staff and
Prestonfield PS	Kara McMillan	1	1	1	1	1	х	1	Х	1	1	1	24	No	Small Steps ro senior pupils motivation and	lled out to with high
Roseburn PS	Hannah Simpson	1	1	Х	х	х	х	1	х	Х	х	х	100	Eco Fair	Small Steps su piloted this y further sign u phas	ccessfully year with p to third
Sciennes PS	Kirsty Gallagher	Х	1	Х	1	1	Х	1	Х	1	1	1	16	No	-	
St Mary's RC PS (East London RD)	Mhari Louise Teden	1	Х	1	1	Х	Х	1	х	Х	х	1	17	Eco Fair	-	
St Ninians	Louise Murray	1	1	Х	1	1	Х	1	х	1	х	1	75	Eco Fair	Started late sp very enthusias pupi	ic staff and s
Towerbank PS	Lucy Pringle	1	1	✓	1	1	Х	1	Х	1	1	✓	12	No Energy Day (termly)	Highly motivate staff & p	upils
WHEC	Kirsteen Scott	1	1	1	1	1	Х	1	Х	1	Х	х	10	No	Campaign pilot within one de	