



## Carbon Copy Winter 2017

Issue No 16



### Welcome

Welcome to our latest issue of Carbon Copy, which being a winter issue, has a focus on ways we can help you to reduce your heating bills. We hope you find it of interest – please let us know what you think – good or bad!



### Christmas giving

A time for charity and generosity it may be, but arguably not for unnecessary giving to energy companies. In previous years we have seen consumption data for some of our sites show that they have used more gas per day during the holidays than they normally would on a winter school day! So, if you would rather not be in this club, check your heating controls are set up to avoid heating your sites as normal over the holiday period.

And of course this doesn't just apply at Christmas, but also at weekends and other holiday periods.

We have plenty of resources to help you:

- A short Property Guidance Note on heating controls
- A more lengthy, but very good guide to Taking Control of Your Heating
- Follow our 'Short Circuit' top tips.

And if your site is supplied through the Council's arrangements with Crown Commercial Service, then you have free access to our on-line monitoring and management tool provided by SystemsLink. This can be used to check your consumption patterns and spot opportunities to make some savings.



### Short circuit - our energy top tips

#### Saving energy in heating

**Turn it down.** If you can lower your set temperature by 1°C you could save around 10% on your heating bill. For schools the regulations suggest an appropriate minimum temperature for classrooms of 18°C, with 21° for areas like sick rooms, and 15° for areas like gymnasias and washrooms.

**Check your timers.** Make sure you are not heating space or water when and where it is not required. Set timers to ensure your desired temperature is achieved when needed and not before, and time boilers to turn down before school finishes, making use of residual heat. If you have AMR (smart meters) you can check consumption profiles using SystemsLink, which might tell you if your heating is coming on out of hours when not required, beyond the level needed for frost protection.

**Maximise your heating effort.** Ensure radiators are not covered. Insulate pipe work and consider fitting reflective panels behind radiators.

**Eliminate draughts.** Encourage staff and students to close doors. Seal draughts around windows and consider adaptations to buildings or behaviour to try and keep warmth inside in cold weather.

**Switch off.** If your heating does not need to be on, switch it off. At weekends, holidays and overnight your heating should be set on 'frost protection'. Trust your controller to switch on if necessary, according your frost protection temperature setting.



## Heating controls explained

If you are following our advice and checking how your heating controls are set up, or asking someone to do this on your behalf, here is a quick guide to some heating control terms that may be helpful.

### Fixed start controls

'Fixed start' controls are simple time switches and the set 'on' time must include a warm-up period to ensure your building is warm enough when you need to start using it. Similarly, the off time should allow for residual heat to carry on keeping the building warm for a while until 'end of use' for the day.

### Optimum start controller

An optimum start controller is an advanced time control fitted to a heating system. It learns how quickly the building reaches the desired temperature and using an internal and/or external sensor, brings the heating on at the optimum time prior to building occupancy. This typically results in heating switching on later on mild days as shorter warm-up times are required. This can often provide a 10% efficiency improvement, even compared to a well-set, seven-day time switch.

### Frost protection

Controls will often have 'frost control' settings, which are there to prevent water pipes freezing in very cold weather. There are various levels of frost protection with both internal and external temperature sensors monitored by the main boiler controls. Those using the external temperature sensor should be set no higher than 3°C. Other protection controls include condensation control, which uses internal temperature sensors and should be set at 8-10°C.

### Temperature sensors

Poor temperature control can be the result of badly located thermostats or temperature sensors. External sensors should be positioned on the north side of the building, out of direct sunlight and away from grilles, vents and flues. Internal sensors should be in the coldest part of the building to be heated, away from draughts or sources of heat such as sunshine, radiators or office equipment like photocopiers. The need to replace batteries is commonly overlooked.

### Programmable room thermostat

A combined time switch and room thermostat allows the user to set different periods with different target temperatures for space heating, usually in a daily or weekly cycle.

### Programmer

Controls both space heating and hot water. The user chooses one or more 'on' periods, usually in a daily or weekly cycle. A mini programmer allows space heating and hot water to be on together, or hot water alone, but not heating alone. A standard programmer uses the same time settings for space heating and hot water. A full programmer allows the time settings for space heating and hot water to be fully independent.

### Time switch

An electrical switch operated by a clock to control either space heating or hot water, or both together but not independently. The user chooses one or more 'on' periods, usually in a daily or weekly cycle.

### Thermostatic radiator valve

A radiator valve with an air temperature sensor, used to control the heat output from the radiator by adjusting water flow.

### Weather compensator

A device, or feature within a device, that adjusts the temperature of the water circulating through the heating system according to the temperature measured outside the building.

### Zone control

A control scheme for heating in which it is possible to select different times and/or temperatures in two (or more) different parts of a site.





## Interest free loans for Academies, Free Schools and Sixth Form Colleges

The County Council's revolving loan fund (LAEF scheme) isn't available to Academies, Free Schools or Sixth Form Colleges. However help is available to these bodies for energy efficiency measures through the Education Funding Agency's Condition Improvement Fund (CIF) and the Salix Energy Efficiency Fund (SEEF).

Salix funds over 100 different technologies including LED lighting, boilers and insulation. Financing is in rounds with applications open once a year.

If there is an energy saving aspect to a CIF application, then a Salix loan can be applied for as part the bid, which improves the value-for-money score (an assessment criterion of CIF funding).

If you are a school looking to make a SEEF or CIF application and would like to make use of our energy management expertise, we would be pleased help.



## Hollywell Infant and Nursery School – lighting the way

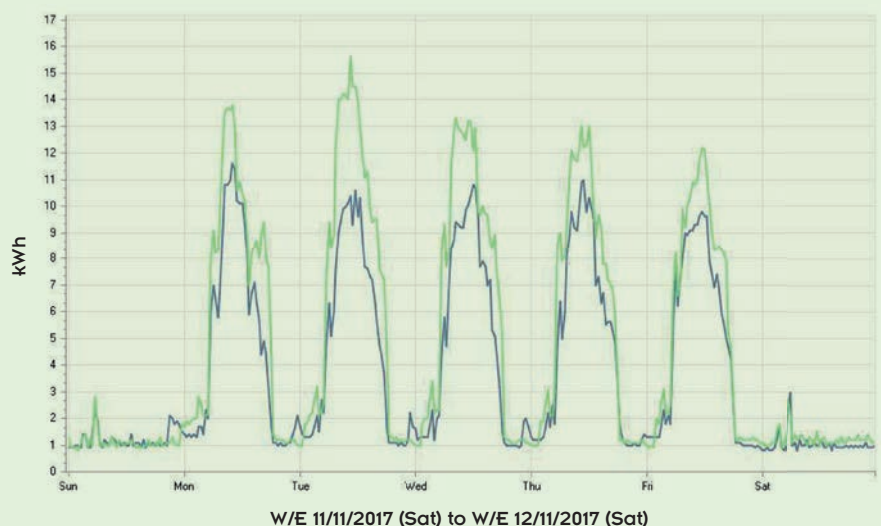
The Council's LAEF scheme, an interest-free loan fund - is available to all our maintained schools for quick payback, energy saving projects of any size. Recently, Hollywell Infant and Nursery School, in Kimberley, used the scheme to install new LED lighting panels and tubes to bring all of their lighting into the low energy category.

One of the nice things about the scheme is that the school has seen immediate savings, with the first loan repayment not due until 12 months after the work was completed and the annual repayments calculated to be less than the energy cost savings, and that's without taking account of likely electricity price increases.

The attached graph shows the electricity profile for the current year, shown in blue, compared to same week of 2016, in green. This shows a saving of about 15 – 20%, which if sustained will save Hollywell about £1500 a year, and give a payback the period of 5 years, with reduced maintenance and a better learning environment to boot.



### Hollywell Primary School Electricity 601327487







## Bye, bye BG

As you may be aware, we procure our energy supplies through the Crown Commercial Service (CCS) framework. Following a recent tendering exercise, CCS has reappointed British Gas (BG) as electricity supplier for the smaller (NHH) supplies on the framework. We were somewhat disappointed by this as we have had a number of ongoing issues with BG regarding correct billing and allocation of payments, and we are too often struggling to get resolution. However, procurement rules prevented CCS from taking past performance into consideration and BG's bid was evaluated as the best offer.

Following discussion with CCS, Nottinghamshire County Council has therefore given notice to both CCS and BG that we wish to move all of our electricity supplies from BG's portfolio, and these will be supplied by EDF as from 01/04/2018, still within CCS's framework, but from a different purchasing basket. CCS estimate that we should see savings across our portfolio of about £50k p.a. and we certainly hope to see improvements in customer service.

**To make sure that we can leave BG as a supplier we do need your help to ensure that all your accounts with them are up to date and cleared of all debt or credit.**

If you are aware that you have historic invoices outstanding, or that payments you have made have not been allocated correctly against the invoices on your account, please get in touch and we will help you ascertain the documentation you need to clear the problem. We may also be getting in touch with you in the near future to inform you of an outstanding balance on your account with BG. Please treat such communications as a priority as all our individual accounts must be up to date to allow the supplies to transfer to EDF.

For those of you who have very complex issues it may be that we cannot get resolution in time, so if necessary we will place such issues into dispute, which will allow the supply to move to the alternative supplier.

Please do not hesitate to get in touch if you have any concerns reading this decision.



## Step off the gas - using SystemsLink to reduce unnecessary gas use

As we hope you are aware, if you buy your energy through the Council's arrangements (via our Participation Agreement) your billing and consumption data is captured and made freely available to you through SystemsLink's on-line Energy Manager tool. We strongly recommend that you give someone the responsibility to run regular checks on SystemsLink – this could be a site manager, school governor, or the school eco-team – log-in details can be shared and playing around with the tool won't break anything!

We are looking forward to a revamped and improved version of this tool being available to you in the spring, meanwhile here are a couple of suggestions for using it to check if there are opportunities to save on your gas bills.

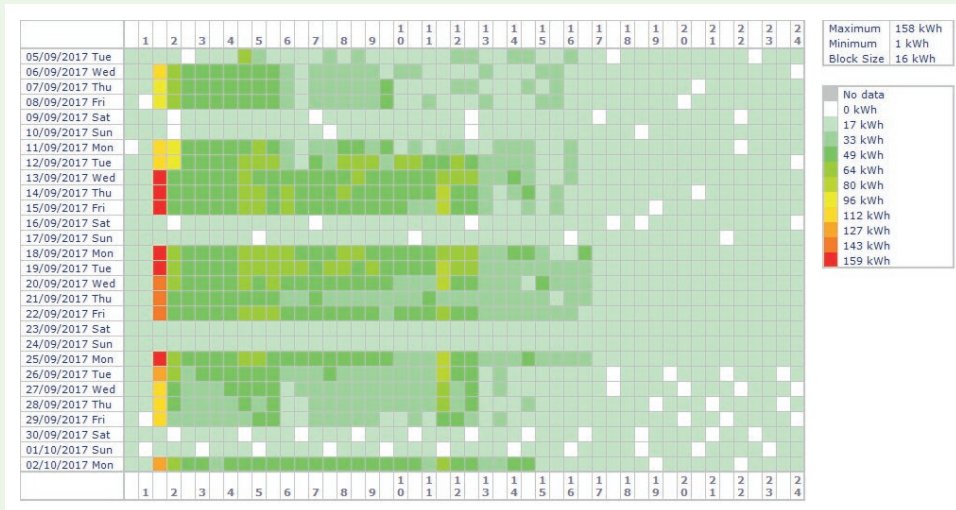
**Gas Footprint Reports** show week by week comparisons of half hourly consumption in the form of coloured squares, from white (representing zero), through green (low), up to red, (high). These are good for spotting unusual periods of higher/high consumption, when one wouldn't normally expect it, for example, if squares that normally show light green at weekends, suddenly start showing up as red. Or they can be used to check if patterns of higher consumption make sense with your times of occupancy. It's normal to see 'hotter' squares at the start of the day, as the heating fires up to get a site up to temperature for when its users arrive.





This report (the most recent 4 weeks) is usually set up as visible on your dashboard - the screen you see when you log-in. To find the report and change the period on view, select 'meters'; then select 'gas'

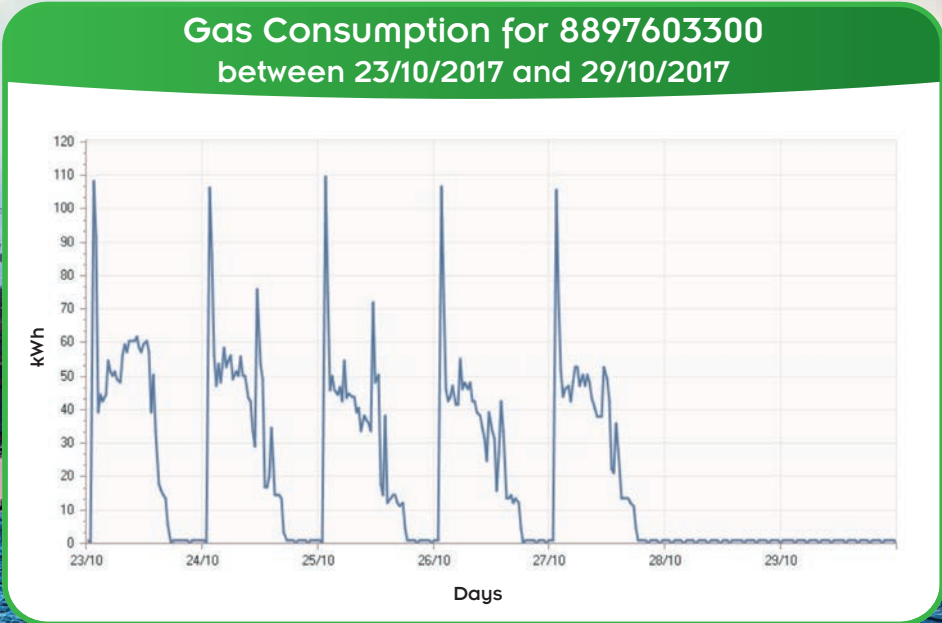
(make sure it's the main gas meter if you have more than one), then select 'AMR', and then choose 'AMR footprint report'. Below is an example from one of our office buildings.



**AMR Data Profiles** can be very useful for looking at gas consumption over a day, a week, 4 weeks, or a year. To find these, select 'meter', then choose 'gas', then 'AMR' for the source of data, and then click 'data' from under the 'meter' heading in the left hand column. You can then adjust the dates and period on view from above the chart. Things to look out for would be consumption overnight and at weekends, and daily start and finish times. Here's an example from one of our offices showing

consumption from Monday through to Sunday. Weekday consumption shows a typical early peak, but perhaps with the heating coming on unnecessarily early. Pleasingly, consumption at weekends is minimal.

Please ask if you require a log-in, would like a copy of the SystemsLink user guide or need some help finding your way around the tool or interpreting what you see.





## Energy and Carbon Management

Helpful, experienced and passionate about saving energy, we provide a comprehensive energy management service to schools, working to reduce the cost of energy, cut carbon emissions and ensure compliance with energy related legislation.

### What we offer

- Our evergreen participation agreement allows schools to benefit from the Council's procurement arrangements for gas and electricity, without the worry of seeking out the best contracts each year. Our arrangements aim to secure consistently good prices and limit the impact of market volatility.
- Free energy surveys to identify energy saving opportunities.
- Assistance with finance to enable schools to install fast payback energy saving measures through interest free loans.
- Online access to energy consumption and billing data, which can be used to identify wasted energy and improve efficiency.
- A range of excellent resources to help schools save energy and involve students, including our twice yearly Carbon Copy newsletter.
- A value for money Display Energy Certificate service to ensure legal compliance and help monitor and communicate energy performance.

### Benefits to your school

- We can help protect your school against increasing energy costs and price volatility
- We keep an eye on your billing to raise any concerns promptly, and can help resolve issues with suppliers.
- Our resources can provide opportunities to engage and involve students and staff in saving energy.
- Energy saving measures can bring additional benefits such as upgraded lighting, enhanced user comfort, improved heating controls and reduced maintenance costs.

### Our pledge

We are committed to helping schools reduce their energy consumption, cut their carbon emissions, meet their energy related legal requirements and access value for money energy supply contracts. Wherever possible we will assist schools to create awareness of energy related issues amongst staff and students.



## So long Tom

Whilst the news that we are hoping to say 'bye, bye to BG' in April probably won't cause much sadness after our experience in recent years of them as our non-half hourly (NHH) electricity supplier, we will miss Tom, one of our long serving energy managers, who is retiring at the end of March. There probably aren't too many schools in the county that Tom hasn't visited and enjoyed nosing round the boiler room and trying to work out the heating arrangements – maybe even drawn you a little diagram by way of explanation?! He'll leave behind a great legacy of energy saving projects and lots of fond memories.

Meanwhile, we are pleased to welcome a new energy management officer in Martin Trowse, who joins us from Ashfield District Council and has lots of experience in energy management with a variety of organisations.



## Recycle for Nottinghamshire Education. Guides available to help you minimise your waste in School

If you want to start off the New Year by minimising waste in school, we have some useful guides which could help.



The Schools Waste Action Club, which is part of the 'Recycle for Nottinghamshire Education' initiative, works with schools to help them minimise waste by reducing, re-using and recycling.

Perhaps your school would like to recycle more?

Composting is a great way to recycle and is often overlooked. We offer a guide to help you get started and perfect the process giving you a fabulous and nutritious compost. The process can be managed easily and with a few hints and ideas, you could be producing your own compost sooner than you think!

Lunch time waste in school can be huge, but we offer useful ideas to minimise or even eliminate what may end up in the bin. Some simple actions, involving the whole school, can help reduce a huge amount of waste. Let our guide show you how!

For an extra challenge, perhaps you'd like to reduce how much paper you use?



We can help you set up a 'Paper Free Challenge' day. Here schools get to think about how much paper they use and discover practical ways to reduce it. Teaching and learning without the use of paper may sound impossible, but we have lots of creative ideas to get you started.

Start off the New Year by taking waste action in your school and let us know how we can help you move in the right direction!

Contact [swac@nottsc.gov.uk](mailto:swac@nottsc.gov.uk) or call **07949 760642**

 **recycle**  
for Nottinghamshire  
education

Working with

