

Annual savings: £ 26.4%  49,711 kWh  9.1T **Payback: 2.7 years**

Kitchener Primary School: taking back control of the heating!

Kitchener Primary School is a school built in 1912 in the Edwardian style, serving the multicultural community of Riverside with 498 pupils on the school role.



Its architectural style means that it is one of Cardiff's heritage buildings, which means that updating aspects such as the heating has to be done with a greater level of sensitivity in terms of the visual impact of any new equipment.

While the school comprises of two separate buildings on one site, the heatboss system has been installed in the Junior building, but even so, that means it controls two thirds of the school's radiators.

OBJECTIVES AND OUTCOMES ACHIEVED

The main objectives were:

- Reduce the heating costs of the school
- Create a way for the heating to be fully controlled, by the staff, room by room
- Ensure the system was sensitive to and low impact for the building's heritage value.

All the outcomes required have been or are being achieved:

- Heating costs are down by an average of **26%** since heatboss was installed in 2015, even though the heatboss system is only controlling two thirds of the school's radiators.
- Teaching staff and children no longer complain about rooms being either too cold or too hot
- The school buildings' heritage values are unaffected by the unobtrusive heatboss installation.



Ruth Jackson, MBE is the Principal of Kitchener Primary School and was the key point of contact within the school for the heatboss installation.

BACKGROUND

The school's Headteacher Ruth Jackson was approached by Cardiff City Council's Energy Officer to trial a new heating system for heritage buildings. Often built with solid walls which makes heating the internal spaces a more energy intensive task, the Kitchener Primary School had specific issues that needed to be overcome.

Previously, as Ruth explains: "The school had relied on a traditional heating system which was either on or off, and which as a result was using a lot of energy to maintain the heating and hot water levels, often unnecessarily and at great expense, a cost which hard pressed education budgets could ill afford."

Ruth says "Previously the school had relied on a traditional heating system which was either on or off ...using a lot of energy to maintain the heating ... often unnecessarily..."

She continues: "There was an unbalanced heat load, leaving some rooms very warm and some rooms very cold, so the teachers and pupils were complaining constantly about comfort levels."

To make things more complicated, the building involved was not suitable for heating via a centralised hub to point solution due to its age, thick walls and room configuration. On top of all that, its heritage value required a sensitive and low impact solution.



PURCHASE AND INSTALLATION: SMOOTH AND TIMELY, GOOD COMMUNICATION AND TRAINING

The installation process was a very smooth and timely event. Because a heatboss installation comes with a team of very helpful engineers and customer service people, they took the trouble to explain how and when the adaptations would be fitted.



Mathew Preece is Cardiff City Council's Energy Projects Manager and he managed the heatboss project on behalf of the Council.



As Mathew puts it...

"We found the ease of installation, and its user-friendly interface, both from a software and hardware perspective, the most attractive aspects of the heatboss system."

Ruth adds: "heatboss also provided comprehensive training for the school's staff in terms of how to use the thermostats." This was an essential element of the council's investment in heatboss, as it would ensure their new heating control system would manage the school's future energy usage as effectively and efficiently as possible.



"The team at heatboss are very attentive and approachable and always on hand to help..."

Mathew Preece, Cardiff Council

Mathew's pleased with the ongoing customer support as well: "The team at heatboss are very attentive and approachable and always on hand to help. If there are any problems, the school simply contacts them directly, and vice versa due to the annual support service which is in place."

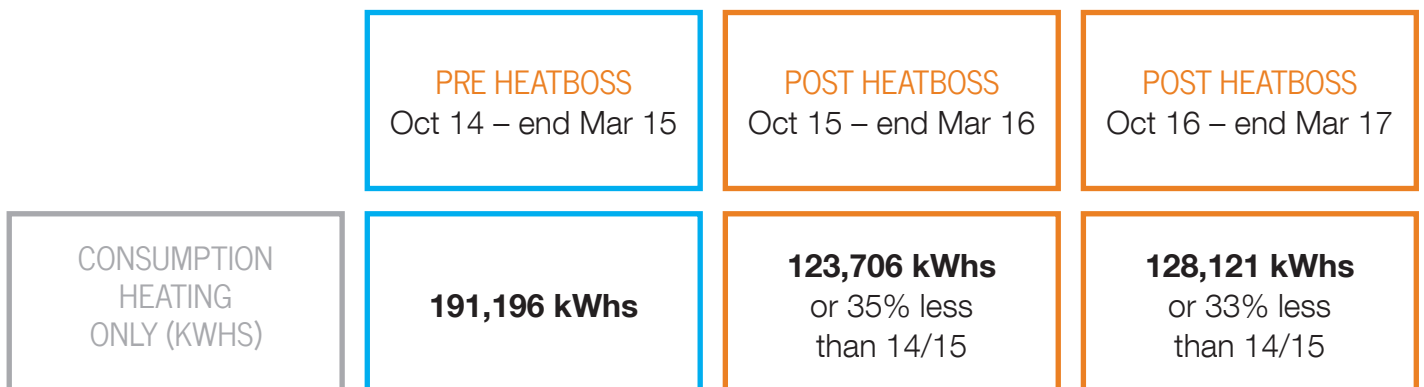
BENEFITS TO SCHOOL

Overall, heatboss has delivered significant savings for the school. Mathew explains: “heatboss now enables the heating to be balanced throughout the school building and saves the school between 20-30% on its heating consumption.”

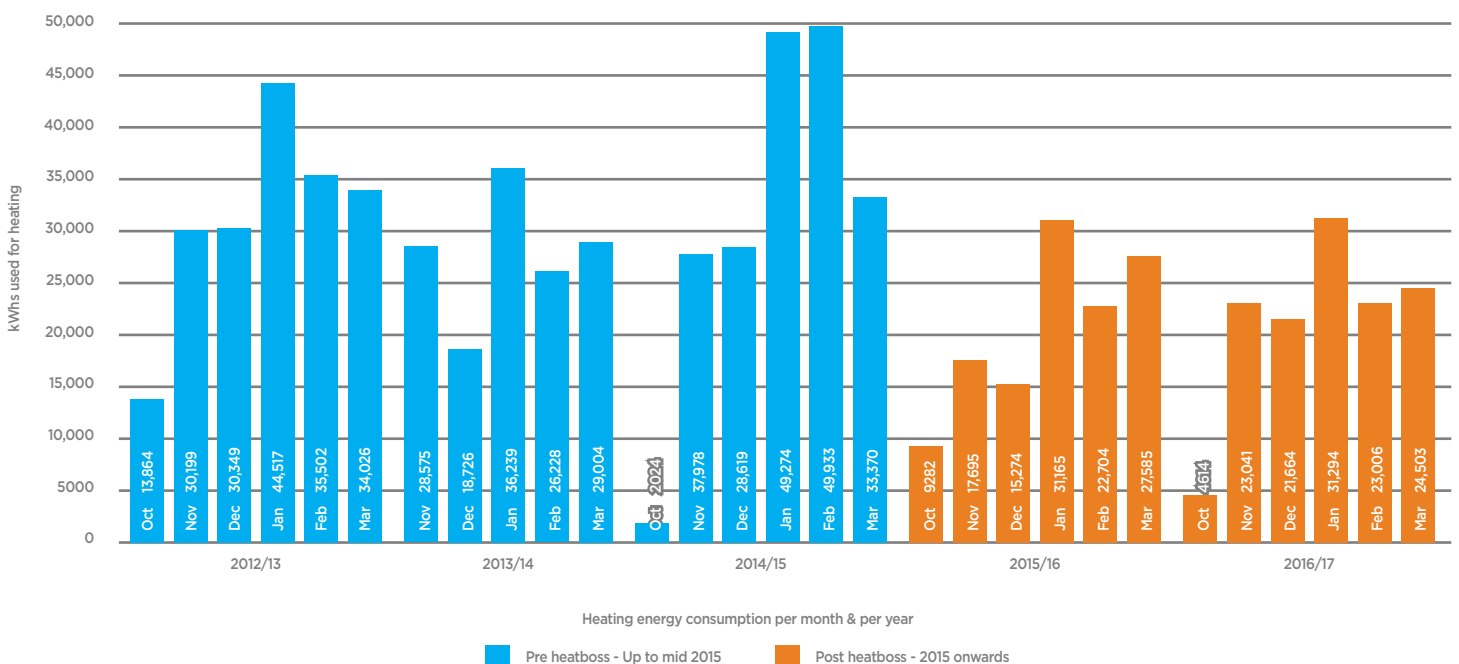
“heatboss saved an average of 26.4% in the 2015/16 and 2016/17 heating seasons, whilst only controlling two thirds of the radiators across the school site.”

Mathew Preece, Cardiff Council

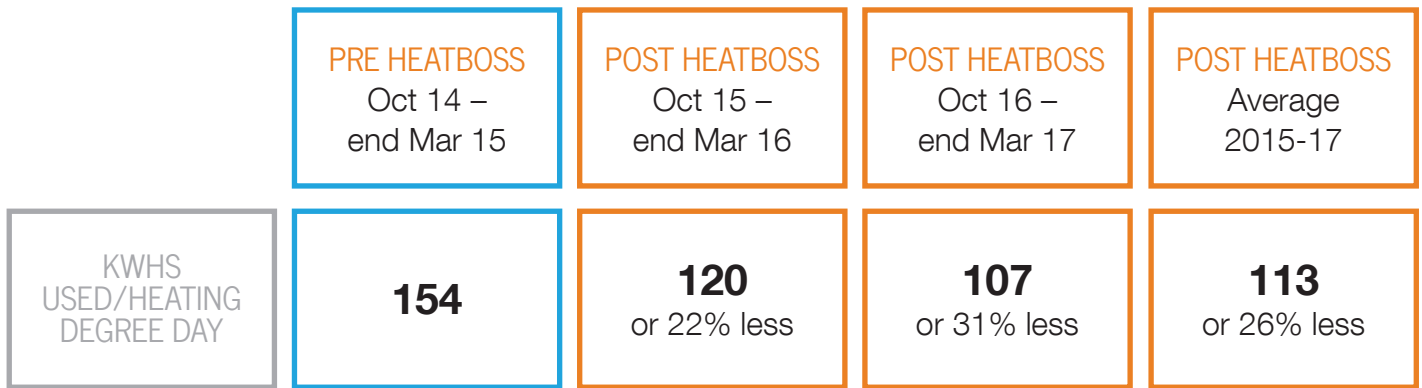
(I) NOT TAKING DIFFERENCES IN THE OUTSIDE TEMPERATURES INTO ACCOUNT:



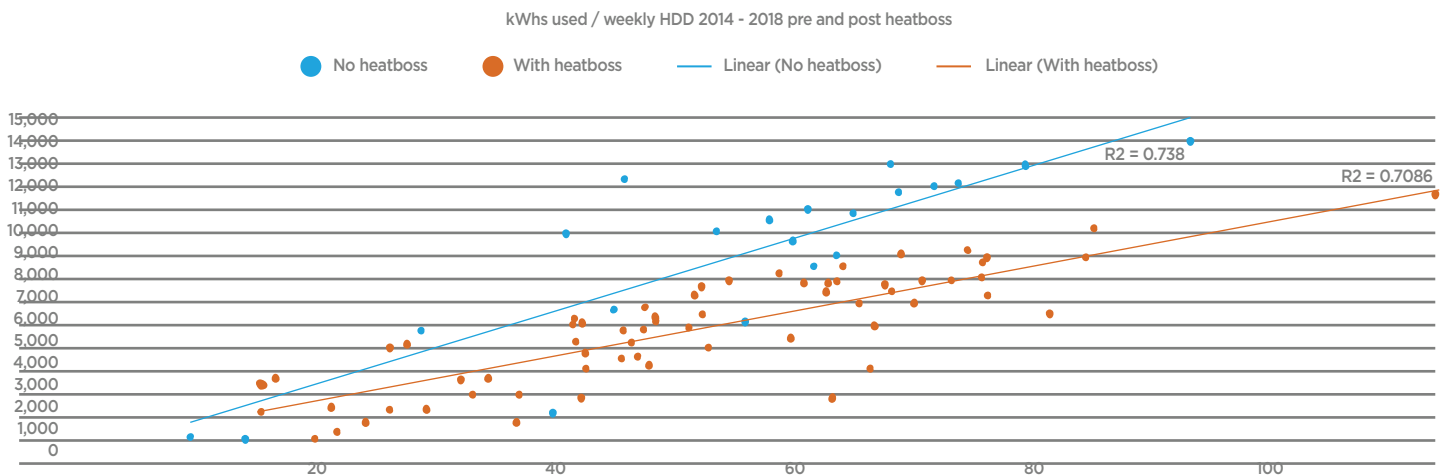
KITCHENER JUNIOR SCHOOL KWHs USED FOR HEATING PRE AND POST HEATBOSS



(II) TAKING THE DIFFERENCES IN THE OUTSIDE TEMPERATURES INTO ACCOUNT OVER THE YEARS: Degree-day analysis allows you to take the weather into account when looking at your energy use



KITCHENER SAVINGS ANALYSIS



As Ruth also pointed out: “Devices in schools need to be extremely robust and not easily removed by the inquisitive hands of children. We approached the heatboss team and advised them that children had been able to pull the valves off the radiators. Responsive as ever, the heatboss team made a change to the design and newer models are now more robust and child-proof!”

SUMMARY: MAKE SURE YOU'VE GOT HEATBOSS ON YOUR SIDE

When asked to summarise, Ruth said: “The school is very happy with the customer service that we received. The heatboss team are proactive and always available to deal with any queries we may have.”

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Ruth Jackosn, MBE, Principal

“ We would certainly recommend a heatboss installation to our peers in the educational community.”

Mathew Preece, Cardiff Council

Mathew adds: “The heatboss installation was a real credit to the team from Okotech Ltd.*, and we would certainly recommend a heatboss installation to our peers in the educational community.”



Gareth Harcombe is Cardiff Council's Operational Manager for Energy and Sustainability

Gareth reinforces Mathew's very positive recommendation, saying: “We've been impressed by the ease of installation of the heatboss product and the simplicity of operation on site. The energy savings delivered so far are also very promising.”

*(*Okotech is the company that developed and owns the heatboss brand of heating energy control system)*