

Waitrose

SUPERMARKETS -

based on a multi-site staggered trial leading to installation in 130 outlets in the UK

First Trials

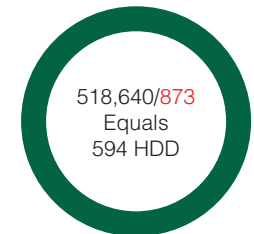
Waitrose, one of the UK's leading supermarkets, conducted trials of the Magnatech system in two contrasting stores, one smaller and one a "super store". The results were positive showing payback times that were within those claimed by Magnatech and reductions in fuel consumption of well over the guaranteed minimum of 6%.

Partial Roll out

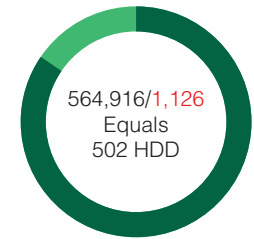
Funding was obtained for a larger level of installation and 100 of the highest fuel consuming stores were selected. These were spread throughout England, Scotland and Wales. The installations were completed within the time frame requested and under budget, an extra six stores were able to have systems installed with the remaining budget.

The boilers found on the sites varied from modern condensing units to much older less efficient boilers. The stores also had air handling units, often on the roof and separate water heaters.

Average consumption of all stores in the trial
8 months pre-installation



Average consumption of all stores in the trial
8 months post-installation



As a Percentage
 $594 - 502 = 92$
 $92/594 \times 100$

=15.48%
reduction in fuel consumption

All gas fired units apart from those in the staff dining room, public restaurants and bake off ovens had the Magnatech System installed.

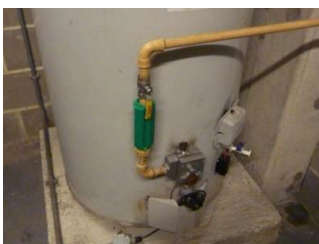
Roof air handling units



Roof handling units



Water heaters



Condensing boilers



Older boilers



Waitrose

Post removal of Magnatech units

The figures below represent the total time with Magnatech Units on and the total time with the units off. The figures are an average of the performance recorded at all stores in the trial. The degree day analysis gives the volume of fuel used for each heating degree day and so compares the consumption on a par - regardless of the outside temperature.

Degree Days Without Magnatech Units	Fuel Burnt	Volume of Fuel/ by Degree Days
873	518,640 kW/hr	594 HDD

Degree Days With Magnatech Units	Fuel Burnt	Volume of Fuel/ by Degree Days
1,126	564,916 kW/hr	502 HDD

This represents a reduction in fuel consumption of 15.48% (when using degree day data based on an average of 17.5c between 6 Degree Day centres www.degree-days.net) [594 - 502 = 92] then [92/594x100= 15.48%]

Conclusion

Based on these results the Waitrose supermarket chain requested installation of the Magnatech System at 20 additional stores. This was achieved within the time allocated and on budget.

Degree Days explained

Degree days, also referred to as Weather Normalized Site Energy data, are calculated by comparing the average temperature in a location to a baseline temperature, which is typically around 65 degrees Fahrenheit. If the average temperature is higher than the baseline temperature, the degree days are “cooling degree days,” which means that energy will be needed to cool the building. If the average temperature is lower than the baseline temperature, the degree days are “heating degree days,” which means that energy will be needed to heat the building.

