

Evaluation of Heatsavr™ Liquid Pool Cover

at Hoburne Holiday Parks – Torbay Indoor Swimming Pool

Analysis Report – November 2014

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Executive Summary

A Heatsavr™ Liquid Pool Cover (LPC) was deployed at Hoburne Holiday Parks – Torbay Indoor Swimming Pool during 2011. The following report is an analysis of the weekly gas kWh consumption data for the swimming pool boiler for corresponding 13 week periods (April to July) in 2010 and 2011.

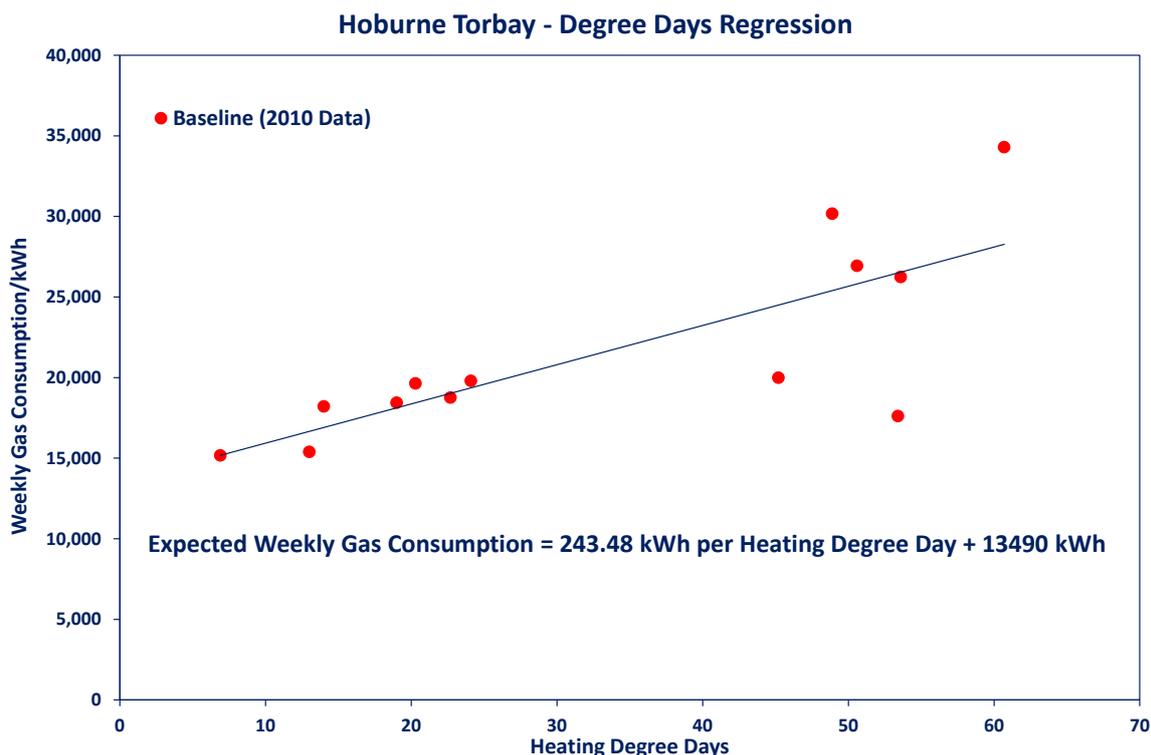
Gas consumption data has been normalised for external temperature to assess the impact of the Heatsavr™. The analysis indicates the gas consumption for the swimming pool boiler has been **21.7%** lower than the expected levels for external temperature with the Heatsavr™ in use. Over the 13 weeks in question this equates to a consumption saving of **56,509kWh** and a financial saving of **£1,130** (based on 2p/kWh)

The model of expected consumption calculated in the analysis, and hence the results presented in this report, are the most accurate assessment of the effect of the Heatsavr™, based on the available data and information at the time of writing.

The method of analysis is outlined in the following report.

Analysis Detail

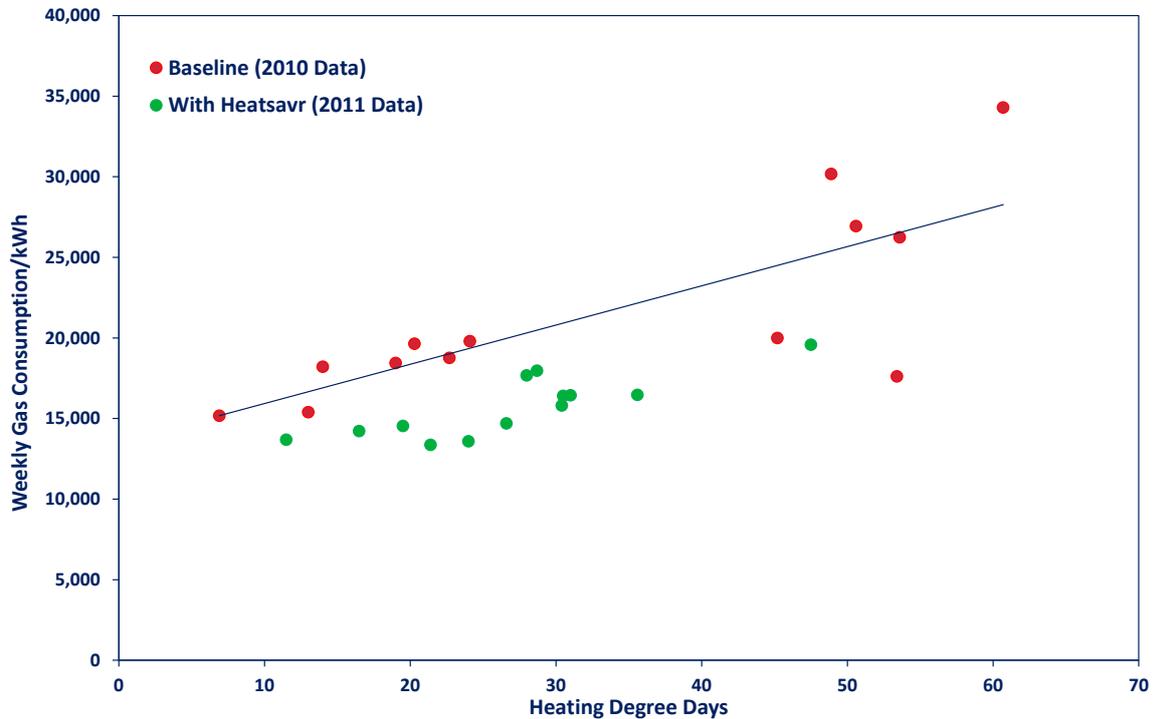
Baseline gas kWh data for Hoburne Holiday Parks – Torbay Indoor Swimming Pool was recorded on a weekly basis between 6th April and 5th July 2010. The chart below shows the weekly gas totals plotted against the respective total for Heating Degree Days taken from Exeter Airport. The line through the data is the line of best fit, and provides the expected level of gas consumption for a given weekly Heating Degree Days (HDD) total.



The chart above indicates that external temperature, as quantified by HDD with a base temperature of 16.5 degrees Celsius, accounts for much of the variation in gas consumption. Further variation is evident since some of the data points, particularly those in the higher range of HDD, are further from the line of best fit compared to those at the lower end. However, in the absence of any further explanatory variables, the expected level of gas consumption for given HDD values provides a fair basis for comparison.

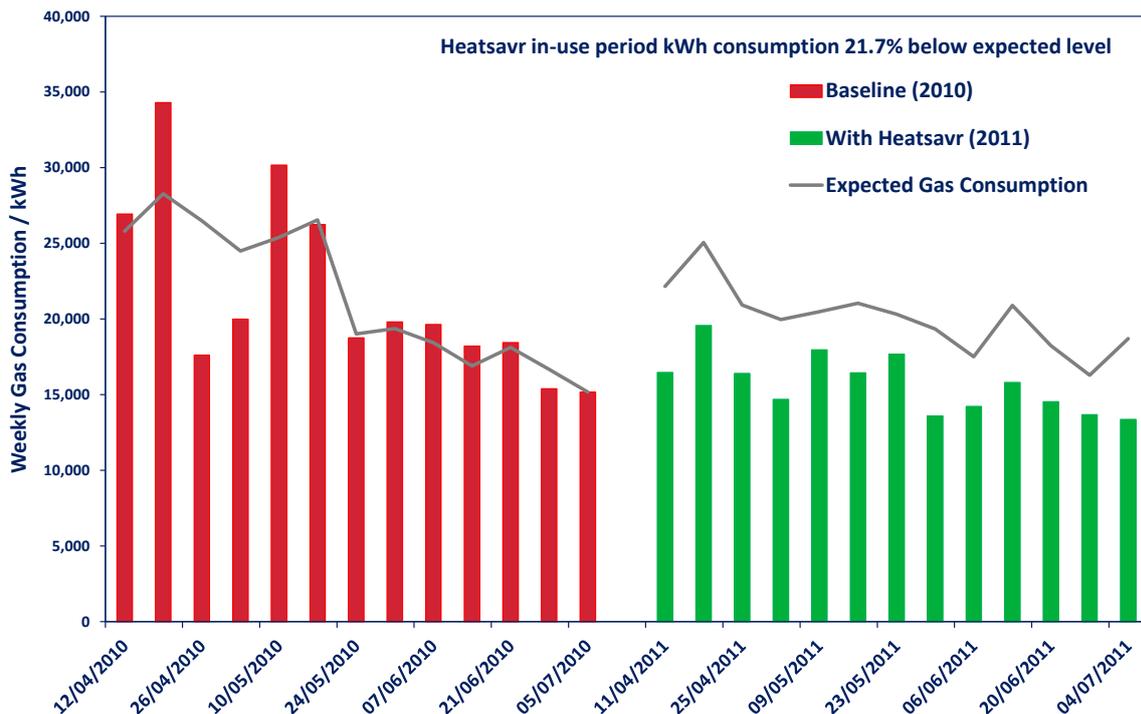
The chart overleaf shows the gas kWh consumption values recorded in the year following the baseline data (4th April 2011 – 4th July 2011) with Heatsavr™ in use. The data for the corresponding weeks of the subsequent year have been provided for comparison because it is understood that operational use of the swimming pool is likely to be similar. The comparison also assumes that no other substantial changes to use of the building or its fabric have taken place between the periods used for comparison in 2010 and 2011.

Hoburne Torbay - Degree Days Regression



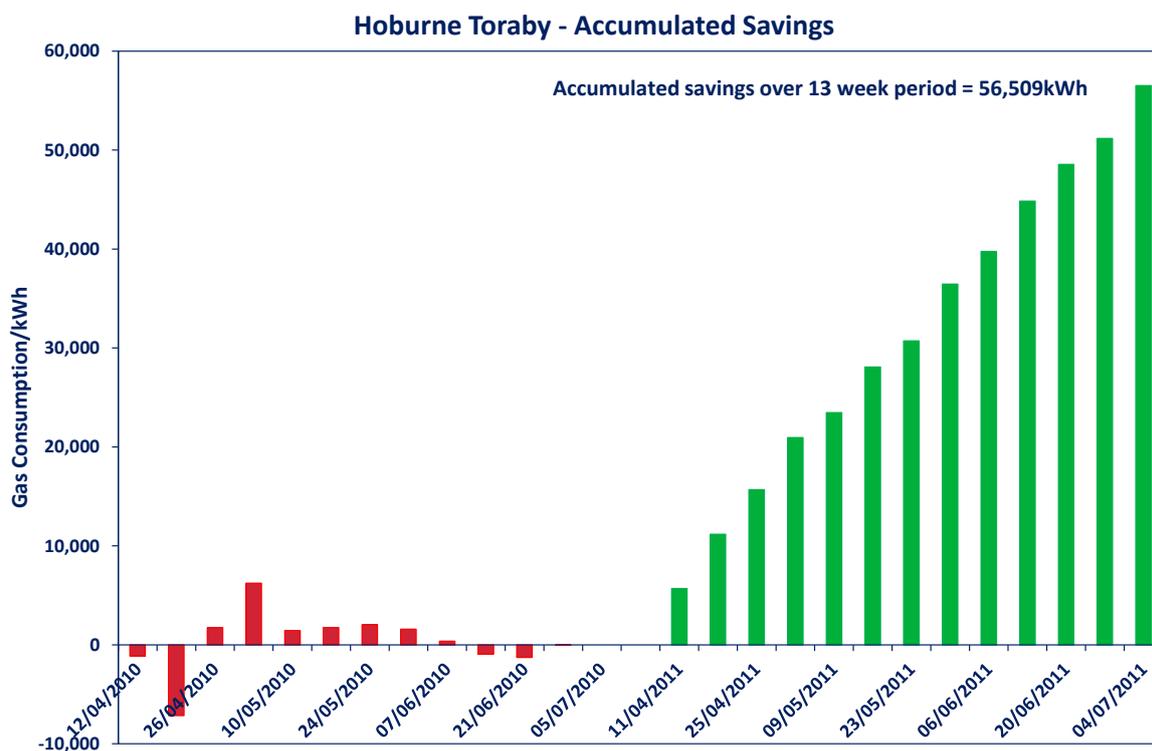
The chart above indicates a reduction in gas consumption compared to expected levels during the 2011 period when Heatsavr™ was in use. The average difference is **4346.9 kWh**, which equates to a **21.7%** saving of total gas consumption. The following chart shows actual and expected levels for both the 2010 baseline and 2011 period with Heatsavr™ in use.

Hoburne Torbay - Actual & Expected Gas Consumption



The previous chart indicated that a consistent saving was achieved over the period with Heatsavr™ in use. Further details regarding the statistical accuracy of the conclusions can be provided upon request.

The saving can also be expressed in cumulative terms, as shown the chart below, which has the cumulative difference from the expected level over the baseline and period with Heatsavr in use.



The total kWh saving over the April–July 2011 period compared to expected levels was **56,509 kWh**.

Conclusions

In conclusion there is very good evidence of an average 21.7% reduction in gas usage against the expected levels for external temperature over the 13 week period in 2011 when the Heatsavr™ is in use.

Over the 13 weeks in question this equates to a consumption saving of **56,509kWh** and a financial saving of **£1,130** (based on 2p/kWh). Heating Degree Days data has been used to take into account variations caused by changes in external temperature.

The model of expected consumption calculated in the analysis, and hence the results presented in this report, are the most accurate assessment of the effect of the Heatsavr™, based on the available data and information at the time of writing.

For any questions relating to the processes outlined above, Hilary Wood at EEVS can be contacted as follows:

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At EEVS we are continually looking for ways to improve our services. If you have any feedback regarding the analytical report or service that EEVS has provided please complete our customer feedback form: <http://eevs.wufoo.com/forms/q7x2x3/>

Introduction to EEVS

EEVS (Energy Efficiency Verification Specialists) is the UK's leading provider of independent performance measurement and verification (M&V) services for energy, water and waste efficiency products and services. As the first UK adopters of the International Performance Measurement and Verification Protocol (IPMVP) – the leading global standard – and with Europe's largest independent team of IPMVP specialists, EEVS have substantial experience in implementing investment grade analytics for energy saving projects.

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