EndoTherm®

CASE STUDY: Allegany College of Maryland
Cumberland, Maryland USA

18.8 %

TOTAL SAVINGS

FINANCIAL SAVING

$3,669.42

CO2e SAVING

50,389 kg

The performance of EndoTherm was piloted by Allegany College of Maryland at their Science Centre in Cumberland, Maryland.

The Science Center is one of their largest energy consumers on campus. The space is heated by a 4113MBH Power Flamer Burner boiler with a circulation rate of 230gpm. The boiler is not used for any other purpose other than heating making it an ideal location for a pilot.

EndoTherm was installed in January 2019.

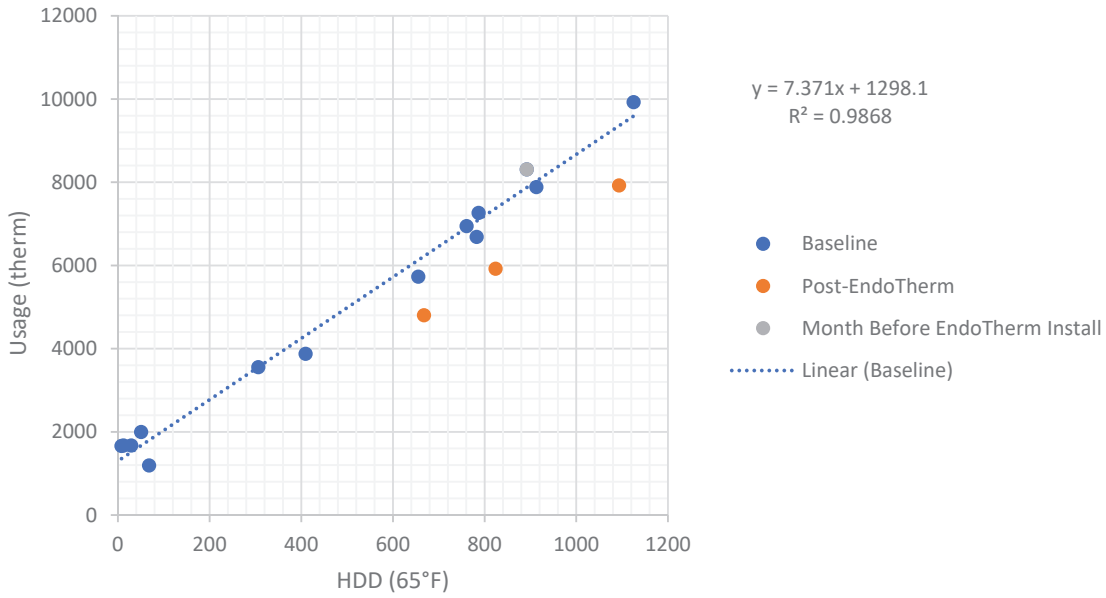
KEY INFORMATION

Installed: Jan 2019
Trial period: 3 months

Boiler spec:
Power flamer burner 4113MBH

BASELINE

Historical data was collected for the Science Center using historical billing data over the last two years. A baseline regression graph was constructed taking guidance from the International Protocol for the Measurement & Verification of Performance (IPMVP) normalized using Heating Degree Days from nearby Martinsburg Airport at a baseload of 65°F.



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BASELINE continued

The equation of the baseline (y = 7.371x + 1298.1) was used to predict consumption in the post-install period (using the known HDD (x) for the time period). The difference between the predicted and recorded consumption can be seen to be the change in the efficiency of the buildings heating systems.

ANALYSIS

The three months after EndoTherm was installed show a significant reduction in the consumption compared with the historical trendline. It is also worth noting that the month before EndoTherm was installed was above the trendline suggesting the improvement in efficiency falls perfectly inline with the addition of the energy conservation measure.

	HDD	Predicted (thm)	Actual (thm)	Difference (thm)
Jan – Feb 2019	1093.70	9359.76	7921.00	1438.76
Feb – Mar 2019	824.20	7373.28	5918.00	1455.28
Mar – Apr 2019	668.00	6221.93	4799.00	1422.93
TOTAL		**22954.97**	**18638.00**	**4316.97**

CONCLUSION

Over the three-month period the site used 4316.97 therms less than predicted. This is a 18.8% improvement.

At $0.85/therm this represents a saving of $3669.42 with a projected ROI within 12 months.

The direct reduction in therms of natural gas is also an offset of 50,389lbs of CO_2e. This is the equivalent to the emissions of five medium sized cars over a year.

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