

# EndoTherm™

CASE STUDY: US Naval Air Station - Whidbey Island



EndoTherm was trialed by the Energy Program Manager at the US Naval Air Station, Whidbey Island, Washington.

The trial was conducted in a single storey (Building 2641) Personnel Support Detachment (PSD) unit. This hydronic system is heated by a diesel powered Weil Mclain Model 80 Series 1 boiler with an output of 396MBH or 116kW.

The volume of the hydronic system was recorded to be 41 US Gallons (155L) and therefore 0.41 Gallons (1%) was installed on the 5<sup>th</sup> December 2016.

Half hourly usage data was recorded for the 4 month trial period and compared with the same time period the year before. Electrical consumption was also monitored to confirm there was no significant change in activity between the two years. The usage data was compensated using Heating Degree Days (18.5°C) from the on-site weather station on Whidbey Island.

Note: There was a time period where the meter was non-operational in 2017 and this time period was eliminated.

PSD Building	Usage (kWh)	HDD(18.5°C)	Usage/HDD (kWh/HDD)
Dec 2015 - March 2016	121031.9	1210.8	99.96
Dec 2016 - March 2017	78717.69	900.4	87.42

## Compensated Saving 12.54%

By comparing the predicted usage with actual usage (based on degree days) the trial saved 149.8 US Gallons. At \$3.90 per Gallon this is a saving of \$522.98.

One US Gallon of diesel will emit 10.13kg of CO<sub>2</sub>. The trial therefore saved 1517kg or 3337lbs of CO<sub>2</sub>.

12.54  
%

TOTAL SAVINGS

FINANCIAL SAVING

\$522.98

CO<sub>2</sub> SAVING

3,337lbs

## KEY INFORMATION

Installed: DEC 2016

Trial period: 4 Months

**Boiler spec**  
1 x 396 MBH (116KW)

**Volume EndoTherm installed**  
0.4 US Gallons