

CASE STUDY

CYGNET HEALTH CARE

Boiler Replacement



BOILER REPLACEMENTS

CASE STUDY

- Increased Efficiency
- Lower Running Costs
- Consistent Room Temperatures
- Zone Control
- Adaptable equipment
- Future-Proofing

Overview

Replacement of inefficient boilers in 27 bedroom private care / retirement home resulting in increased efficiency and lower running costs. Consistent room temperatures met throughout the home, with ability to adjust per 'zone' dependant on the users needs, resulting in heating bill savings and equipment prepared to adapt with any system expanse at no additional costs.

The Problem

SCL received a call out for no working heating in a private care / retirement home, once our team arrived, they discovered the home had four floor standing atmospheric boilers over 30 years old. The units had failed due to numerous faults, and combining these issues with other faults, including poor circulation, inefficient radiators, manual valves and lack of control; the time required and cost of repairing these boilers would have been far greater than removing the system and replacing it with a more efficient, newer system.

DID YOU KNOW?

By replacing old florescent systems with LED lighting, up to 60-70% of savings can be made on energy bills. LED is up to 90% more efficient than incandescent light sources.

The Solution

SCL created a proposal for the client which would see the 4 floor standing boilers removed and replaced with two 100kw frame hung condensing boilers, we proposed to replace the pipework throughout the plantroom, including control valves to make sure the installation was seamless.

When discussing the proposal with the area director, we were advised that the site had little control over heating, with numerous radiators not getting hot and some so hot they had to turn the system off completely to cool the rooms down. With this, we went back to our design team, and adjusted our proposal to incorporate solutions for this issue. Because the system would either run (or not run) with no zonal control valves or thermostats, this made the system completely inefficient, we therefore designed the building into zones (bedrooms/lounges/common areas/offices/kitchens), and installed wall mounted thermostats as close to the middle of each zone to get accuracy of temperature, therefore being as efficient as possible.

To reduce the running costs of the home alongside this, we carried out a complete high-pressure flush of the building to remove deposits which hadn't been removed with the radiator clean. After close consultation with the client, we ensured that all materials installed had a capacity for future expansion, as the client had expressed.

DID YOU KNOW?

The 24/7 operation of care homes means heating adds up to be one of the most significant expenditures. Improving heating efficiency is therefore the most crucial factor in protecting the residents while staying within budget, and saving in the long-term.

The Impact

- **35% increased boiler efficiency** in comparison to old, fault free units
- By designing the building into zones were able to keep bedrooms and lounges at the **constant 24 degrees required for care homes**, this enabled us to switch off heating to the offices and kitchen, reducing it down to 50% during the night in common areas, which should see vast **savings in heating bills with only 1 new boiler needing to run in comparison to the previous 4 running constantly.**
- We were able to not only **future proof the work but reduce any associated costs** when the time comes to expand the system.
- The newly installed equipment was selected based on its maximum BREEAM rating of 86.7% (Excellent), **meaning the installation falls within the top 10% of UK new non-domestic buildings** (BREEAM best practice) (NOx Nitrogen & Oxygen pollutants 40mg/kWh (Class 5) for all-natural gas models for maximum BREEAM points). This should see **the environmental impact from the newly installed kits be greatly reduced against the old plant and keeps the client updated with latest government initiatives.**

Additional Challenges Addressed

A) Before the installation works commenced the site manager emphasised how important it is for our engineering team to be aware of noise levels and that at all times, we should remember that this is the service users home. This was a challenging task, but our team took every precaution to ensure the works were undertaken as quietly and cleanly as possible. The work was completed as requested by the site manager.

B) Once the system was fully complete and installed, we received a complaint that the heating had gone off in two areas, causing the team concern as it had previously worked well. After immediate investigation we found that the wireless controllers had lost signal and held the heating system off despite being within range of the receiver, which previously had been checked against the manufacturers technical specifications

As such, the fault was reported to the site manager & regional director who were advised of the issue and the solution to rectify which was to change the controls to a hard-wired system which would manage the fault completely, once installed the system worked as it should. A lesson learnt for the SCL team that you cannot rely on the manufacturers technical data as factual in a real world environment.

BOILER REPLACEMENTS

CASE STUDY

- Increased Efficiency
- Lower Running Costs
- Consistent Room Temperatures
- Zone Control
- Adaptable equipment
- Future-Proofing

If you like what we do and would like to speak to us about a project for you, call us today 01621850202

Visit www.sclmanagedservices.com for further details on the full range of services we offer.