

Wembley Stadium

London, England

Autoflame Service & Support have maintained this site for **over 10 years** with **emergency call-outs**, servicing and spares via the **service agreement** with our **South London based team**.

A **high-efficiency upgrade** of Lampsfield burners and Autoflame controls to **replace end-of-life equipment** has almost been completed.

Figures: **ROI in under 1 year** with **10% in fuel savings per annum** and **emissions savings of 26.05% per annum**, with instant savings already gained from 2 out of the 5 boilers upgraded.



THE PROBLEM

- **Unreliability** | The existing boiler plant equipment, deemed end-of-life, was not efficiently meeting the critical nature of the site's heating demands.
- **Operating Costs** | Extended downtime periods occurred due to the unavailable, high-cost spares required. The client was also keen to address increasing energy prices for this natural gas firing plant.



THE GOALS

1. **Product reliability** | Paramount for the stadium due to the critical nature of events such as concerts and sporting events. Quick access to spares and servicing is crucial to limit downtime and associated costs.
2. **Efficiency** | Increasing operational boiler functionality is vital to maximise efficiency, whilst meeting stadium heating demands.
3. **Running Costs** | Addressing the ever increasing energy and maintenance costs was a key goal for the client. To increase the service life of the existing boilers via more efficient combustion would create less short-cycling, thus reducing the thermal fatigue on the boilers.
4. **24/7/365 Support** | Callouts need to be responded to immediately for this site to meet the demands of the stadium. Unscheduled downtime must remain minimal.



THE RESULTS

- **ROI in under 1 year** with **10% in fuel savings per annum**
- **Emissions savings of 26.05%** per annum (*this is a combined figure accounting for O₂, CO, CO₂ and NO_x*).
- Our South London based team continue to provide **24/7/365 support, immediate response times** and **minimal downtime** in collaboration with the innovative equipment installed and the pre-existing service contract in place.



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THE STRATEGY

After completing an **energy audit** and emissions reports for the existing equipment, Autoflame presented an **energy saving proposal** focusing on increased operational efficiency through precise, intelligent combustion.

An ongoing project, the 5 boilers located across two boiler rooms are to be upgraded in stages. Across each of these, existing burners and controls deemed end-of-life are to be replaced with **high-efficiency Limpsfield burners** and **precise, intelligent Autoflame controls**. This upgrade delivers an instant increase in **efficiency** and reduction in **fuel usages** and **emissions**.

The MM provides full fuel-flow metering, in collaboration with comprehensive Autoflame sensors, to deliver full heat flow demand of the boilers and accurate operational costs for a **total carbon footprint overview**. All equipment installed is researched, developed and manufactured in-house by the respective factories, in South London - **Made In Britain**.

To further enhance efficiency across the site's two boiler rooms, Exhaust Gas Analysers (EGA) were installed. This innovative multiple-**Queen's Award winning technology** delivers continuous **emissions reporting** and **stores 3 years of emissions data** on gases, pressures, atmospheric pressure, temperatures, efficiency and fuel usage. The EGA intelligently syncs data from the burner to accurately trim combustion for optimum combustion performance at all times.

The Autoflame Data Transfer Interface (DTI) collects information from across all 5 boilers, providing a **complete boiler plant overview**. This information is accessed by our service team to troubleshoot remotely and **enable the allocation of parts** prior to attending site. This knowledge gained from the DTI facilitates highly efficient maintenance visits, drastically **reducing downtime**.



THE EQUIPMENT

Before:

- 1 x Nuway burner
- 5 x Hoval SR Euro LTHW LTHW boilers
- 4 x Riello burners

Newly Installed: (October 2022), (March 2023)

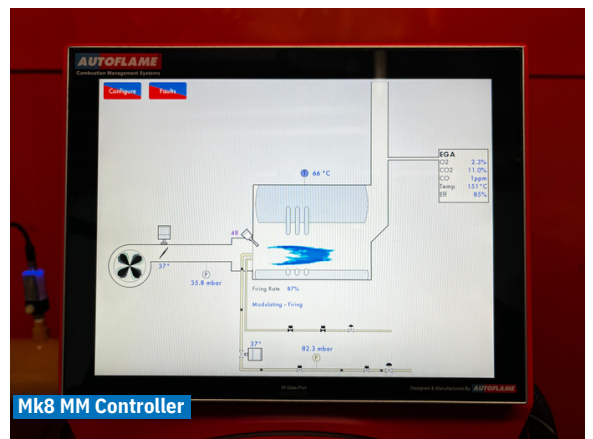
- 2 x Limpsfield LCN53 burner with Autoflame Mk8 MM controls pod mounted
- 2 x Autoflame Mk8 EGA EVO, exhaust gas analyser
- 1 x Autoflame Mk8 DTI, data transfer interface

To be Installed: (Autumn 2023)

- 3 x Limpsfield LCN53 burners with Autoflame Mk8 MM controls pod mounted
- 3 x Autoflame Mk8 EGA EVO, exhaust gas analysers



Limpsfield LC Burner



Mk8 MM Controller



Mk8 EGA EVO



Mk8 DTI