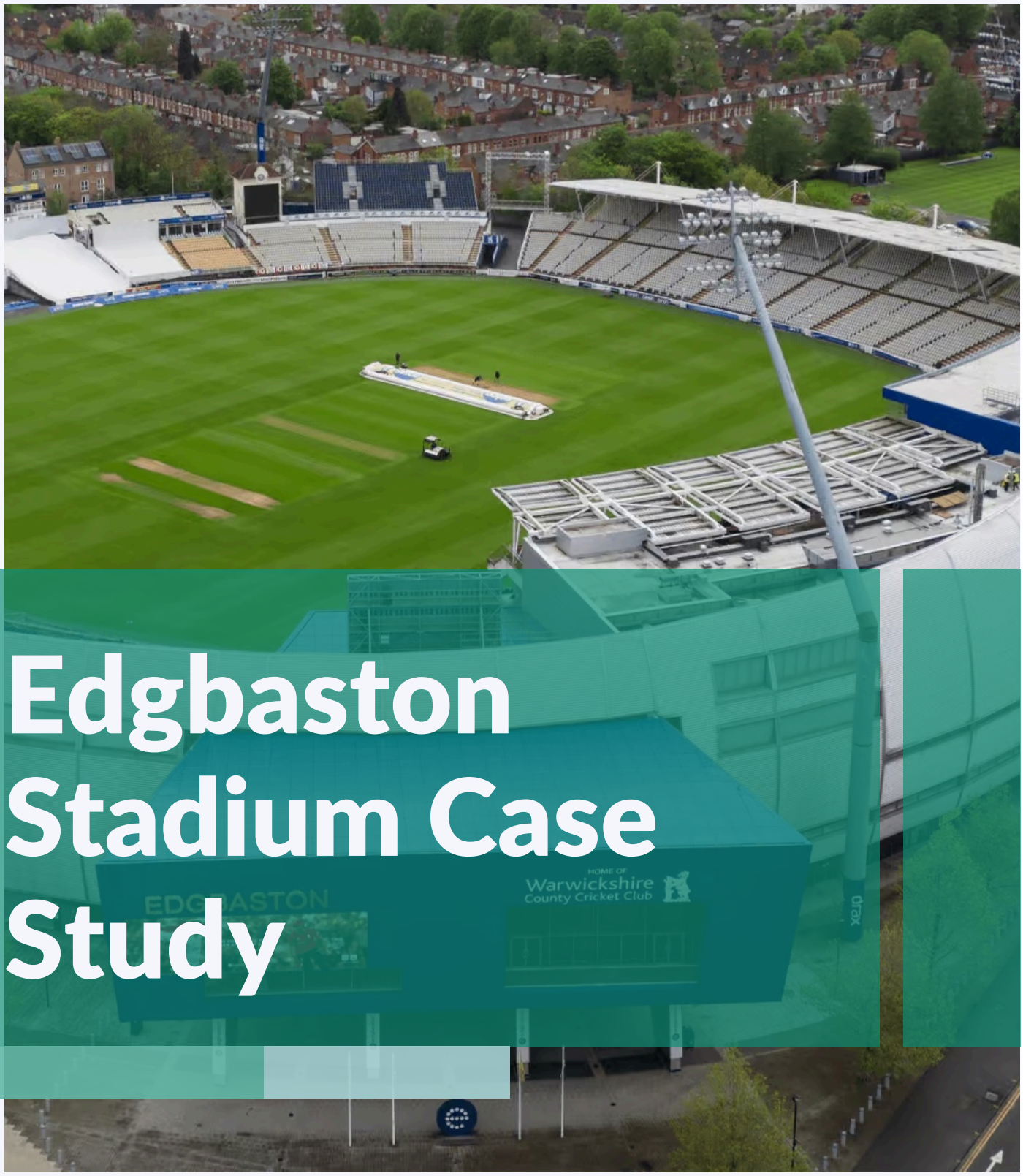
LIGHTWAVE ENERGY MANAGEMENT SOLUTIONS
pro.lightwaverf.com

Get in touch:
commercial@lightwaverf.com
+44 (0)121 468 8987



Edgbaston Stadium Case Study

A 70% Reduction In Energy Usage Across Hospitality & Concourse Areas At A Historic Cricket Venue

ABOUT US

Lightwave is the UK's leading retrofit brand in connected smart lighting, power and heating control. We have over 50,000 systems installed, with more than 1 million active devices in the market.

All products are designed, engineered and supported in the UK (Birmingham). Lightwave systems control devices and report data through secure, long-range wireless technology.

Lightwave is the only retrofit solution that can measure, manage and crucially control the energy use at the device level within a commercial property. As Lightwave is a completely modular system, installation and set-up can be completed without any major disruption to normal daily business operational activities, providing a flexible solution with the deployment of simple retrofit devices.

As an organisation, our aim is that Lightwave becomes the de facto standard for the management of small power devices in a commercial environment. We strive to become a leader in the drive to reduce energy consumption and carbon impact. Our commitment is that we will continue to provide innovative, simple-to-use, commercially attractive solutions in the pursuit of this goal.

THE STADIUM

For cricket fans, Edgbaston is one of the most iconic sporting venues in the UK, home to Warwickshire County Cricket Club, the Birmingham Bears and Birmingham Phoenix, as well as being a proud host of Ashes cricket.

The ground has been developed over time to become one of the premier cricket locations globally. Since 1882, the ground has been host to club and international cricket, having one of the most formidable reputations for atmosphere in England for visiting teams.

The ground has been continually developed to provide a first-class match day experience.

25,000 Capacity

60+ Match Days Per Year

600+ Events Hosted Annually

Significant Ongoing Investment in Sustainability

Innovation & Sustainability

Alongside its reputation as one of the UK's most iconic cricket venues, Edgbaston has established ambitious sustainability goals. Through its Edgbaston four Sustainability programme, the venue is working towards becoming a Net Zero stadium by 2030, focusing on reducing energy usage, improving recycling and waste management, lowering its carbon footprint, and supporting education, health and wellbeing initiatives.

THE CHALLENGE:
BIG PROJECT, QUICK TURNAROUND

01 TACKLING HIDDEN ENERGY WASTE

Despite significant investment in sustainability initiatives, small power consumption often remains one of the most overlooked areas of energy usage within large venues. At Edgbaston, equipment such as televisions, refrigeration, and heating systems was identified as an opportunity to reduce unnecessary consumption while maintaining day-to-day operations.

02 DEMONSTRATING THE SAVINGS

To validate the opportunity, a pilot installation was commissioned within selected hospitality areas, focusing primarily on televisions and refrigeration equipment. The results demonstrated measurable reductions in energy consumption and carbon emissions, providing confidence that a wider deployment could deliver meaningful operational savings across the stadium. When scaled across the site, the projected return on investment was just over 1.5 years.

03 DELIVERING AROUND A BUSY VENUE

Sporting venues operate to demanding schedules, balancing fixtures, hospitality events, conferences, and day to day operations throughout the year. With the 2025 cricket season fast approaching, the installation programme was carefully planned to fit around Edgbaston's operational requirements. The system was installed, commissioned, and fully operational within just 6 working days, ensuring the venue could begin benefiting from energy savings ahead of the new season.

IMPLEMENTATION

RAPID RETROFIT INSTALLATION

The Lightwave system was designed for rapid deployment with minimal infrastructure changes. As a fully retrofit solution, there was no requirement for rewiring or major building works, allowing devices to be installed directly into existing sockets and circuits across the venue. Installation was carried out by NICEIC-qualified Lightwave PRO engineers, ensuring a professional and efficient deployment throughout.

IMMEDIATE OPERATIONAL BENEFITS

The deployment was carefully phased across the stadium, with each area commissioned and tested before handover. Standard automation schedules were applied immediately, enabling equipment such as televisions and refrigeration units to be centrally monitored and controlled through the Lightwave Portal from day one.

SUPPORTING LONG TERM SUCCESS

Following installation, the Edgbaston facilities team received training and ongoing support to ensure the system continues to deliver long term value. Beyond the initial deployment, Lightwave works closely with the venue to help identify further opportunities for energy reduction and operational efficiency:

- Hands on training for day to day operation and monitoring of the Lightwave Portal.
- Access to CPD-accredited Lightwave PRO courses for facilities and technical staff.
- Regular system health checks and ongoing optimisation support to maximise energy savings.
- UK-based technical support, providing direct access to expert assistance when required.
- Continued guidance on energy management strategies and opportunities to further reduce operational costs and carbon emissions.

KEY SUCCESSES

SCALABILITY & EFFICIENCY

By combining intelligent automation, centralised control, and real time energy monitoring, Edgbaston has transformed the way small power assets are managed across the venue. The solution helps reduce unnecessary energy consumption, lower operating costs, and support the stadium's wider sustainability objectives, all while maintaining the flexibility required to support fixtures, hospitality events, and day to day operations.

£30,000
Annual Energy Cost Savings

180,000 kWh
Annual Reduction in Energy Consumption

55,000 kge
Annual CO2 Reduction in Energy Consumption

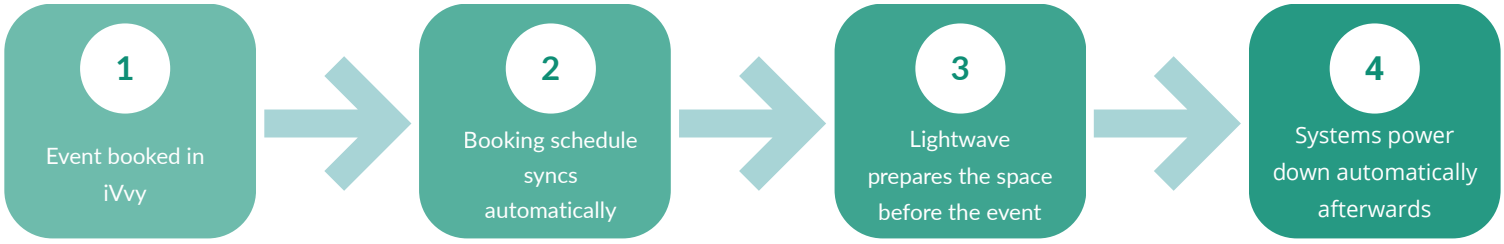
Lightwave | iVvy.

TURNING BOOKINGS INTO ENERGY SAVINGS

With iVvy already supporting venue and event management at Edgbaston, Lightwave's integration enables energy usage to automatically respond to live booking data. Spaces can be prepared automatically before events begin and powered down afterwards, reducing unnecessary energy consumption while minimising manual intervention from venue staff.

FROM BOOKING TO AUTOMATED ENERGY CONTROL

A simple four-step automation process connects live venue bookings directly to energy management across the stadium:



TRIED AND TESTED AROUND THE GLOBE

iVvy allows stadiums and venues around the world to automatically control lighting, power and heating based on live iVvy booking schedules, helping them reduce waste, lower operational costs, and improve sustainability performance.

WHAT THEY SAY

How would you describe the implementation of the Lightwave system?

"Following the trial period, which provided confidence in the system and the technology output, the implementation process was smooth and well-coordinated. We aligned the installation with planned renovation works to minimise disruption."

How do you find the Lightwave team to work with?

"The Lightwave team has been professional, responsive, and supportive throughout. They maintain regular check-in calls to review performance and discuss updates or system enhancements. Queries are handled promptly, and portal updates are provided where needed."

Would you recommend Lightwave to other stadiums or large venues, and why?

"Yes, we would recommend Lightwave to other stadiums and large venues. The system is innovative, reliable, and easy to use in a dynamic operational environment"

What measurable impact has the Lightwave system had on your energy consumption and operational efficiency?

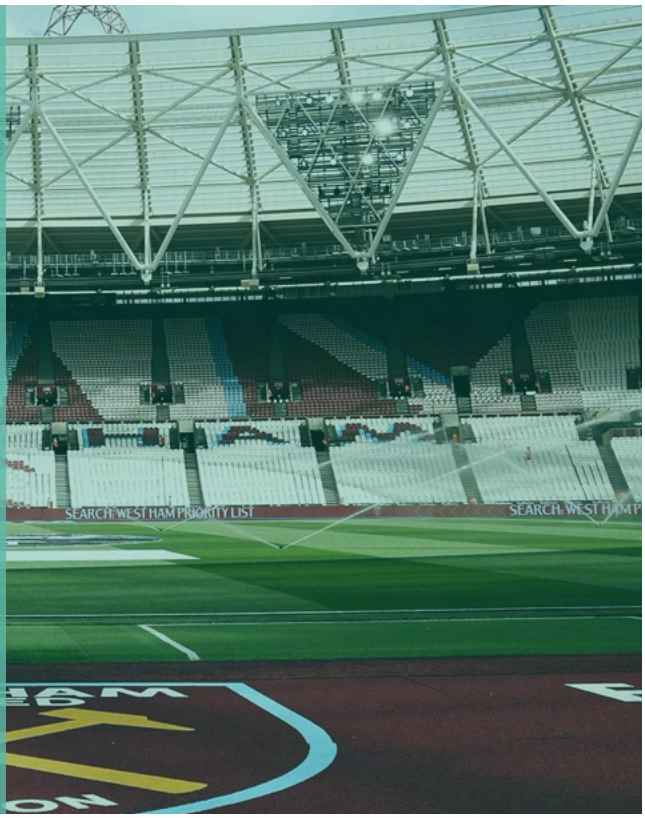
"The system has improved operational efficiency drastically through the ability to control devices centrally and remotely. This has streamlined processes, reducing the need for manual involvement across the stadium. Early indicators have identified faulty equipment and opportunities for improved energy efficiency."

LONDON STADIUM CASE STUDY

Achieving a 66% reduction in energy consumption & costs in only 12 months.

Lightwave

London Stadium: Smarter Energy Management with Lightwave



The London Stadium is one of the UK's most iconic and versatile sporting and entertainment venues. Originally built for the London 2012 Olympic and Paralympic Games, it now hosts Premier League football, athletics, rugby, and major concerts with crowds of up to 80,000.

The Challenge:

With hospitality areas and equipment in use for only around 35 days a year, the stadium needed a smarter way to reduce wasted energy and operational costs. Traditional building management extensions would have required costly, disruptive rewiring, making efficiency improvements difficult to achieve.

The Solution

Lightwave retrofitted intelligent sockets and switches across the venue, giving facilities staff centralised visibility and control over hundreds of devices. Using a bespoke dashboard, teams can monitor usage, schedule shutdowns, and remotely power down equipment without expensive infrastructure changes.

Energy Cost Reduction

Non-essential appliances are powered down after events, eliminating unnecessary consumption.

Return on Investment

Retrofit installation avoided major construction costs and delivered measurable savings from day one.

Operational Efficiency & Sustainability

Central control streamlines match-day operations, extends equipment lifespan, and supports the stadium's carbon reduction goals.

> *"We were attracted to Lightwave because of the clear opportunity to reduce both carbon emissions and costs by running our equipment more efficiently."*
>
> **— Alan Skewis, Head of Capital Projects & Sustainability**

Contact us

Ready to see how Lightwave can transform your venue's energy efficiency?

Book Energy Consultation

lightwaverf.com

commercial@lightwaverf.com

INTRODUCTION

HERITAGE & LEGACY

Built for the London 2012 Olympic and Paralympic Games, the London Stadium was the centrepiece of the Queen Elizabeth Olympic Park and the stage for unforgettable opening ceremonies and world-class athletic performances.

SCALE & VERSATILITY

Today, the stadium has evolved into a year-round multi-purpose venue. It is home to West Ham United, hosts UK Athletics, international rugby fixtures, and some of the world's largest concerts. With a capacity of 60,000 for football and over 80,000 for concerts, it stands as one of the largest and most heavily utilised stadiums in Europe.

60,000 Football Capacity

80,000+ Concert Capacity

35+ Major Events per Year

Significant Ongoing Investment in Sustainability

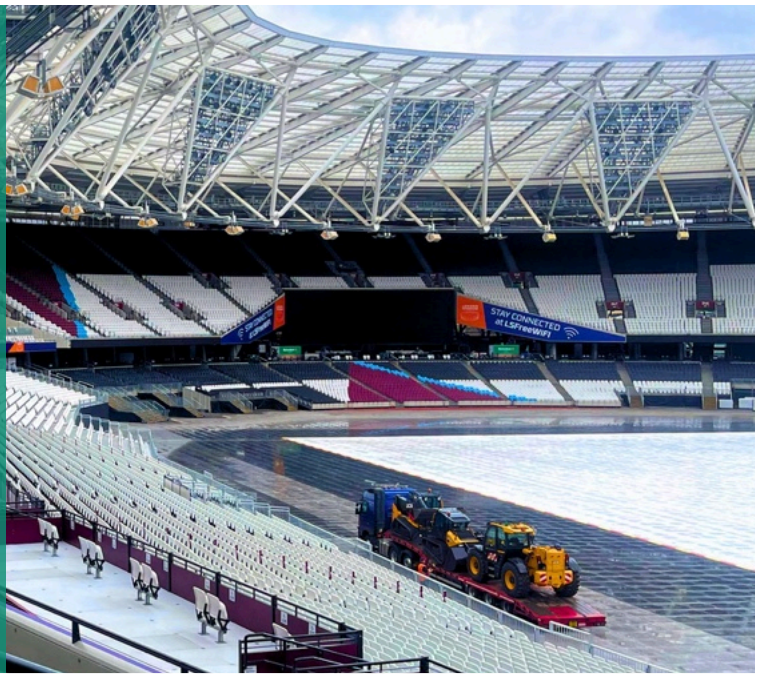
INNOVATION & SUSTAINABILITY

Beyond its scale, the stadium has become a landmark for sustainable, future-focused operations. Investments in energy efficiency and environmental responsibility underline its commitment to innovation. The integration of Lightwave smart energy solutions demonstrates how intelligent controls can cut costs, reduce carbon impact, and support the smooth running of a truly iconic venue.

lightwaverf.com

commercial@lightwaverf.com

The Challenge: Modern Venue, Same Old Limitations



The London Stadium is a world-class venue with a rich legacy, but despite being constructed only 15 years ago, its command and control infrastructure has significant limitations. While the stadium is equipped with a Building Management System (BMS), like many BMS platforms, its capabilities do not extend to comprehensive monitoring and control of all individual power endpoints and switching devices off, like non food refrigeration at circuit level could damage appliances.

INEFFICIENCY AT SCALE

- The stadium is only in active use for around 35 days per year, yet hundreds of fridges, TVs, and hospitality appliances remain connected year-round.
- Without a dedicated team to physically check every suite and concourse area, non-essential equipment was often left running unnecessarily, wasting energy and driving up costs.
- Shutting devices off at the circuit level wasn't an option, as it could risk damage to critical appliances such as refrigeration

The Cost of Traditional Upgrades

A conventional BMS extension would have meant extensive rewiring across the site, a project that was both cost-prohibitive and highly disruptive to ongoing operations.

Why a Retrofit Was Needed

To overcome these limitations, the stadium required a scalable, non-invasive solution that could:

- Deliver granular visibility and control of power usage.
- Allow remote management of appliances across hospitality and concourse areas.
- Avoid the cost and disruption of major infrastructure works.

Contact us

Book Energy Consultation

0121 468 8987

commercial@lightwaverf.com

IMPLEMENTATION:
Smart Integration with Zero Disruption

ABOUT US

Delivering a fast, non-invasive rollout completed safely, on schedule, and without interrupting stadium operations.

SEAMLESS RETROFIT DEPLOYMENT

The Lightwave system was designed for speed and minimal disruption. A dedicated Project Manager led the installation, supported by the Head of Field Operations and a team of NICEIC-qualified Lightwave PRO engineers.
Because Lightwave's technology is fully retrofit, there was no need for rewiring devices were installed directly into existing sockets and circuits across kiosks, bars, hospitality suites, and concourse areas.

SOLUTION IMPLEMENTATION

Training & Long-Term Support Following installation, the facilities team received:

- Hands-on system training for daily operation and monitoring.
- CPD-accredited Lightwave PRO courses for technical staff.
- A supply of spare devices on-site to ensure long-term continuity and resilience.

COORDINATED AROUND STADIUM OPERATIONS

Installation was carefully phased area by area, aligning with the stadium's event calendar to avoid downtime.

- Each zone was commissioned and tested before moving to the next.
- Standard configurations and automation schedules were applied immediately.
- From day one, equipment such as fridges, TVs, and lighting could be centrally managed through the Lightwave Portal.

OUTCOME

By adopting this structured yet flexible approach, the London Stadium achieved a seamless rollout, integrating smart energy control across hundreds of devices without interrupting normal operations.

CONTACT US

Book Energy Consultation

0121 468 8987
commercial@lightwaverf.com

RESULTS

Over a 12-month period, Lightwave's smart automation technology delivered a 66% reduction in energy consumption across the London Stadium's hospitality areas.

INTELLIGENT ENERGY AUTOMATION

By integrating Lightwave's cloud-based control system, the stadium automated a wide range of electrical and environmental systems, including refrigeration, lighting, and auxiliary equipment. Instead of operating continuously, assets were intelligently scheduled and dynamically adjusted to match occupancy levels and real-time demand.

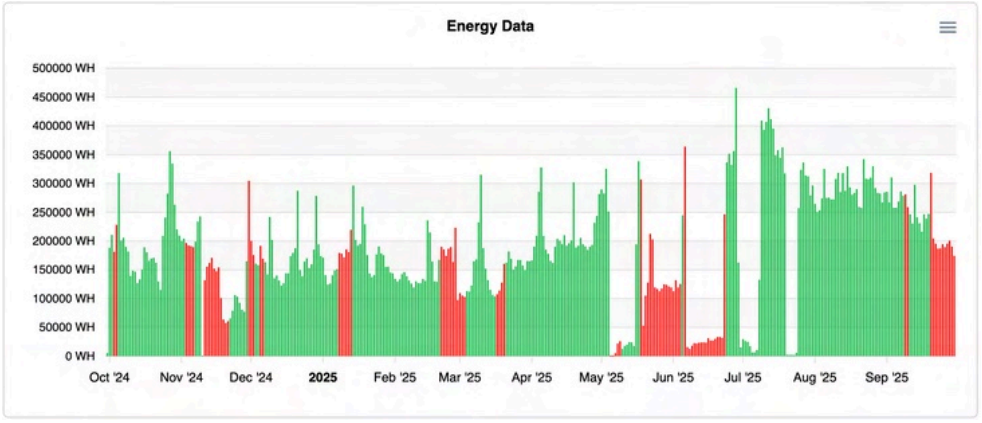
- Non-essential chillers and drinks fridges were cycled in sync with compressor down-times.
- Lighting and climate controls were aligned with operational hours, ensuring efficiency without compromising service quality.

QUANTIFIABLE RESULTS

- 66% reduction in energy consumption across hospitality areas in 12 months.
- Dynamic scheduling cut unnecessary runtime on major appliances.
- Predictive maintenance insights identified anomalies in compressor performance early.
- Lower operational costs and extended equipment lifespan from reduced wear and tear.

Energy Consumption Analysis for All Fridges

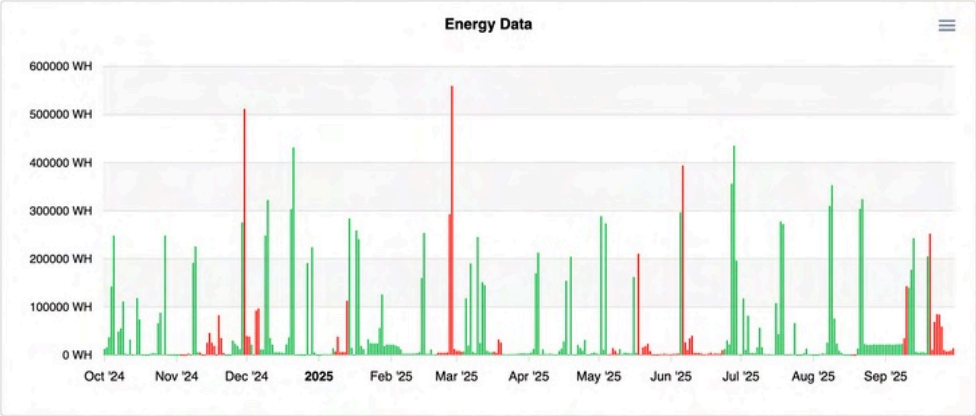
Analysis Period 01/10/2024 - 30/09/2025



	Unit	Forecast	Actual	Difference	Average Daily
Energy	kWH	247,762.97	66,748.02	181,014.95	182.37
Carbon Equivalent	kge	76,558.76	20,625.14	55,933.62	56.35
Cost	£	54,507.85	14,684.56	39,823.29	40.12
On Time	HH:MM				09:01

Energy Consumption Analysis for 00 All TVs

Analysis Period 01/10/2024 - 30/09/2025



	Unit	Forecast	Actual	Difference	Average Daily
Energy	kWH	164,138.56	17,401.96	146,736.59	47.55
Carbon Equivalent	kge	50,718.81	5,377.21	45,341.61	14.69
Cost	£	36,110.48	3,828.43	32,282.05	10.46
On Time	HH:MM				02:18

BEYOND ENERGY SAVINGS

The benefits extended far beyond energy reduction.

- Real-time monitoring provided actionable insights for facilities teams.
- Anomaly detection enabled proactive servicing before equipment failures occurred.
- The system established a data-driven foundation for future optimisation across the venue

THE RESULTS

The London Stadium's partnership with Lightwave demonstrates how smart automation transforms energy management in complex, high-demand environments, delivering both immediate savings and long-term operational resilience.

Contact us

Book Energy Consultation

0121 468 8987

commercial@lightwaverf.com

WHAT THEY SAY

"We were attracted to Lightwave because of the clear opportunity to reduce both carbon emissions and costs."
— Alan Skewis, Head of Capital Projects & Sustainability

"All work was completed to a high standard and quality of finish. The installation team were reliable and met all required deadlines."
— Stanley Ingram, Project Manager

"This solution provides flexibility to power devices in specific areas only when required, streamlining match-day operations, improving efficiency, and extending the lifespan of assets."
— Harnam Singh Bimrah, Head of IT

"Lightwave's tailored approach provides solutions that reduce consumption without affecting operations."
— Stephen Kennedy, Head of Facilities

LOOKING TO THE FUTURE

One year after deployment, Lightwave's retrofit energy control system has proven itself as a benchmark for innovation in large-scale venues.

- Seamless integration: Installed in weeks with no disruption to daily operations.
- 24/7 reliability: Wireless devices and secure cloud platform provide constant visibility and control.
- Scalability: The existing infrastructure supports easy expansion, covering beer chillers, walk-in refrigeration, sub-metering, and even perimeter heating systems.
- Sustainability: Supports LS185's long-term ambition of achieving net-zero energy use.

"We're proud to have under-promised and over-delivered. Lightwave has proven that you don't need major construction works or expensive rewiring to take control of your energy footprint at scale."

lightwaverf.com

commercial@lightwaverf.com