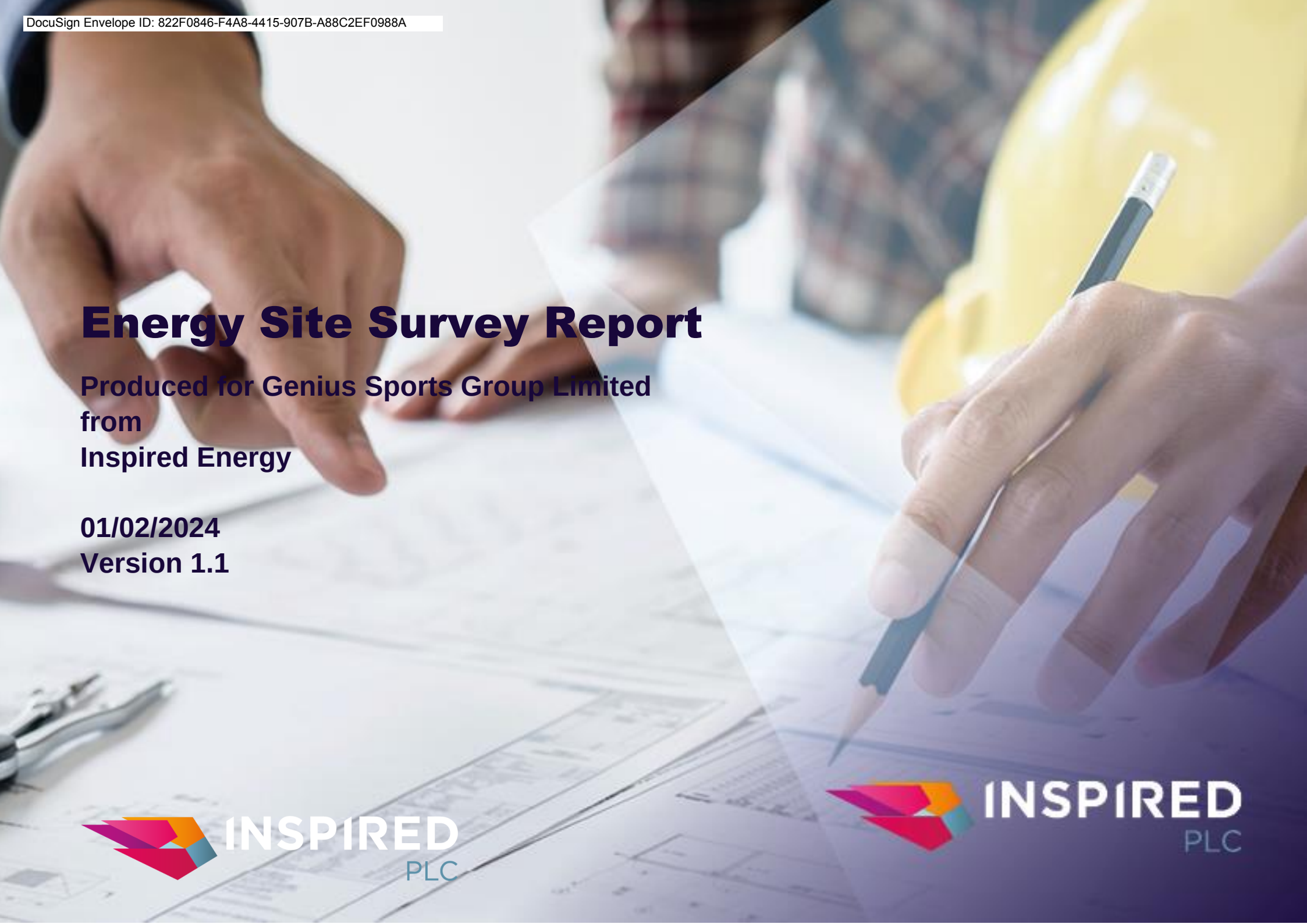

Energy Site Survey Report

Produced for Genius Sports Group Limited from Inspired Energy

01/02/2024
Version 1.1

INSPIRED PLC

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Contents

1 Summary

This report presents the findings of an Energy Site Survey commissioned by Genius Sports Group Limited for the purpose of identifying energy saving opportunities (ESOs).

12-month data summary	
Main heating fuel	Electricity
Total energy consumption (kWh)	89,105
Total energy cost (£)	8,910
Total emissions (tCO_2e)	18.92
Potential savings (%)	
Energy	4.3
Cost	4.3
Carbon	4.3
Decarbonisation opportunities	
Total emissions (tCO_2e)	0.81

Site Address: 10 Bloomsbury Way, Holborn, London, WC14 2SL

Survey Date 20/07/2021

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Data used in production of this report covers the 12-month period commencing 01/07/2021

Key Findings

Table 1 overpage shows all ESOs identified. Whilst energy saving opportunities have been identified, energy management is evidently performed already to a high standard and there are no major concerns regarding energy waste at the site. Genius Sports occupy 2 floors in a serviced office therefore opportunities are limited, with 3 being identified.

1.1 Energy Saving Opportunities

Description	Year 1 Savings			Guide Price (£)	Payback Period (years)
	Cost (£)	Energy (kWh)	Emissions (tCO_2e)		
Energy Management Plan	£178	1,782	0.378	£500	2.81
Install time clocks to electric water heaters	£112	1,117	0.237	£450	4.03
Review and Optimise AC in Comms Room	£93	931	0.198	-	-

Table 1

2 Site Information

- Site type: Air-conditioned serviced office
- Approx. Gross Internal Area (m^2): Unknown
- Approx. Year of construction: Pre 1900
- Occupancy (hours per year): 2,080

Occupancy hours:

Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close
09:30	17:30	09:30	17:30	09:30	17:30	09:30	17:30	09:30	17:30	Closed	Closed	Closed	Closed

Table 2

Genius Sports is a digital company within the sports, betting and media industry. It is the official data, technology, and commercial partner to over 400 sports organisations globally, capturing high quality data for many of the world's largest leagues and federations such as NFL, EPL, NASCAR and PGA.

The site surveyed is located in Central London. Genius Sports occupy 2 floors (8th and 9th) within 10 Bloomsbury Way. These are serviced offices, with the building management team in control of the plant and HVAC controls, and ancillary areas of the building (W.C.s etc).
HVAC is controlled via a central BMS, with zoned areas throughout. The systems run from gas fired boilers, chillers, and Denco ceiling mounted AC units. Set points for the systems are as follows;

- 21-23°C Winter
- 16-18°C Summer

Lighting consists of LEDs throughout; systems are controlled via PIR sensors and daylight sensors near the windows.

Small power consists of typical office equipment including desktop monitors, centralised printing units, AV equipment, and kitchen appliances.

Genius Sports utilise approx. 169 desks across the 2 floors with 205 staff having access to the offices.

3 Energy Utilities

Table 3 below summarises the site's energy supply information. Electricity data for the site is recorded via 13 sub meters. Further information regarding these meters and consumption related data can be found in the electricity consumption analysis sections of this report. Gas consumption is not recorded as it relates to total building usage and cannot be separated by floor.

Utility	Meter number	Data type	Unit rate[1] (p / kWh)	Emission factor[2] ($kgCO_2e$ / kWh)
Electricity	Various Sub Meters	Invoices	10.00	0.21233

Table 3

[1] Unit rates may be fixed or variable and in some cases the price paid per unit can vary according to the hour of day energy is consumed. Unit rates for each utility shown here are based on averages. These averages are used throughout the report in all summary information as well as energy saving opportunity calculations. In the data analysis section of this report that follow, more specific unit rates may be used that are not used elsewhere within the report.
[2] Emission factors are based on those published by the Department for Business, Energy & Industrial Strategy (BEIS) and are used in accordance with guidance notes contained within.

4 Consumption Summary

Table 4 summarises total energy consumption, cost, and CO_2 emissions according to the measurement period stated. Further analysis can be found in the Energy Profiles section of this report that follows.

Fuel	Energy (kWh)	Cost (£)	Emissions (tCO_2e)	Percent of total			
				Energy	Cost	Emissions	Estimated data[3]
Electricity	89,104.53	£8,910.45	18.920	100.00%	100.00%	100.00%	0.0%

Table 4

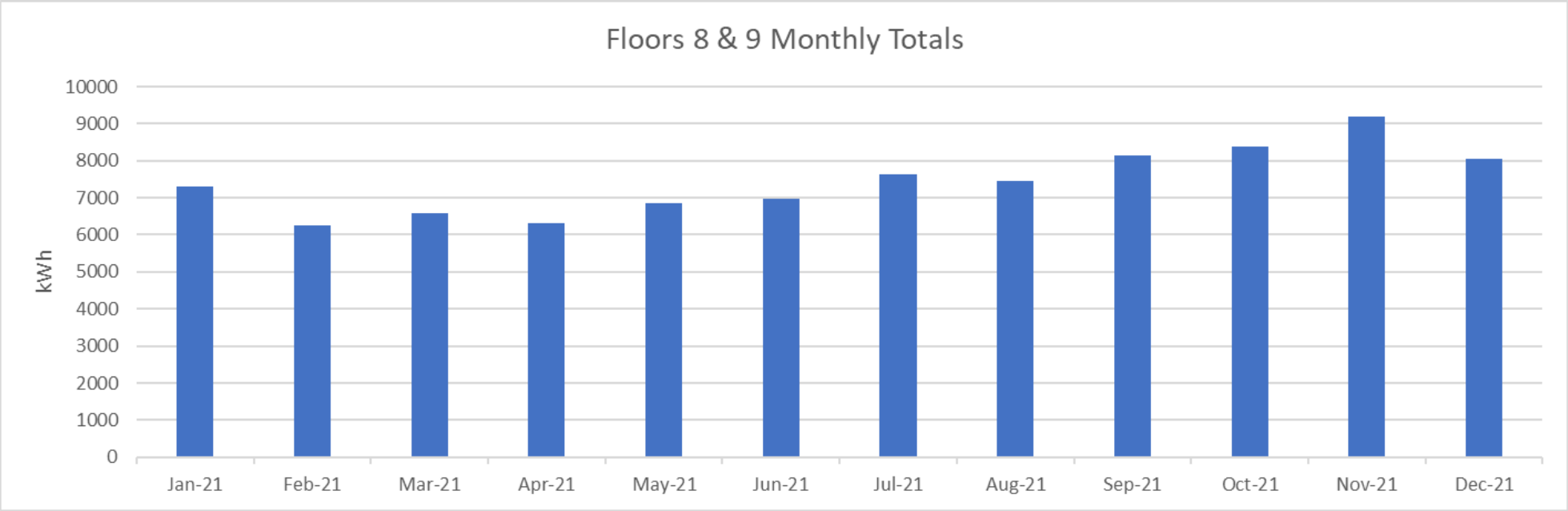
5 Energy Profiles

5.1 Electricity

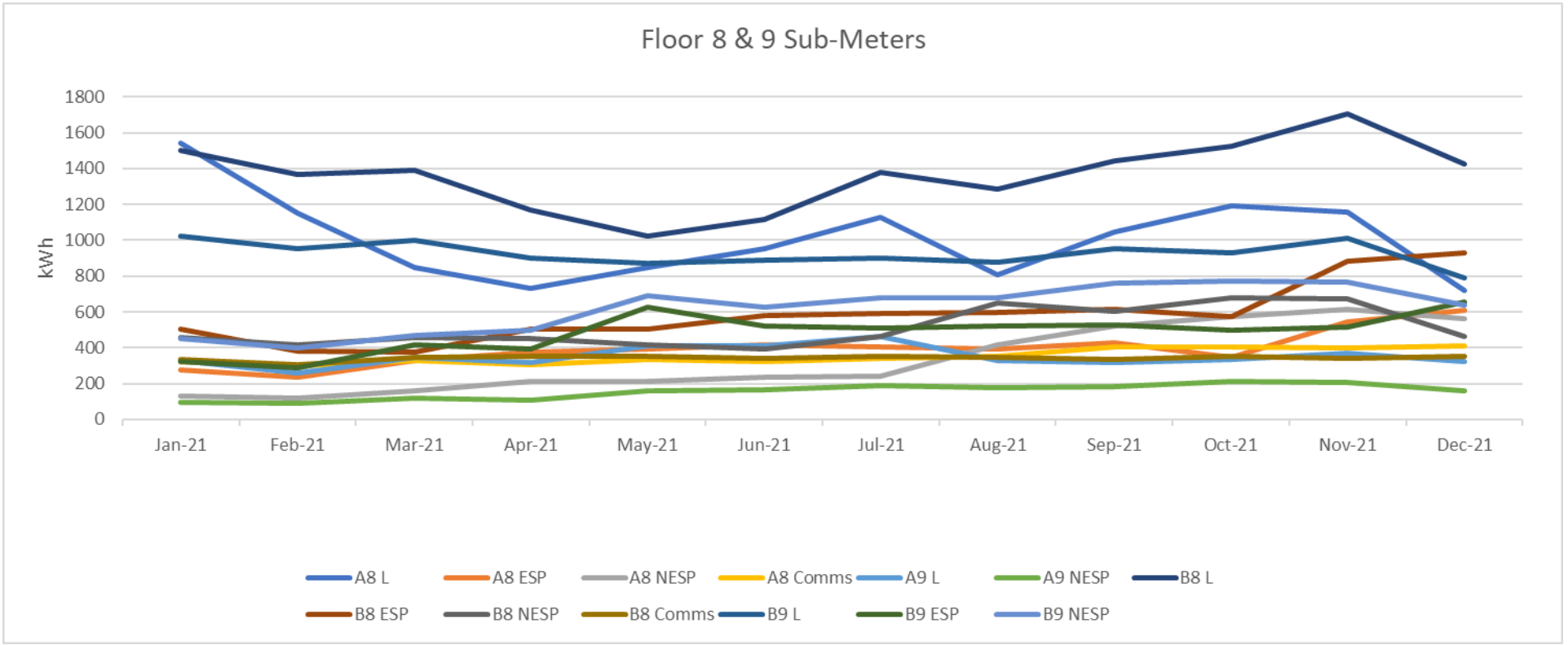
Meter number	Energy (kWh)	Energy (% of total)	Supply area(s)
A8 L	12,130	14	8th Floor
A8 ESP	4,753	5	8th Floor
A8 NESP	4,005	4	8th Floor
A8 Comms	4,228	5	9th Floor
A9 L	4,206	5	9th Floor
A9 NESP	1,862	2	9th Floor
B8 L	16,326	18	8th Floor
B8 ESP	7,037	8	8th Floor
B8 NESP	6,115	7	8th Floor
B8 Comms	4,112	5	8th Floor
B9 L	11,094	12	9th Floor
B9 ESP	5,807	7	9th Floor
B9 NESP	7,428	8	9th Floor
TOTAL	**89,104**	**100**	8th & 9th Floor

Table 5

5.1.1 8th & 9th Floor



The chart above shows monthly electricity consumption for both floors. Consumption is steady with seasonal increases in the autumn/winter months due to increased lighting and heating requirements.



The chart above shows A8 L B8 L & B9 L to be the largest consumers throughout the year.

6 Energy Saving Opportunities

6.1 Net Zero Opportunities

With businesses actively looking to reduce energy consumption and emissions as part of their NetZero journey, it is important to recognise that some energy efficiency actions identified during site surveys may provide the opportunity to implement significant emissions reductions, whilst the total energy savings and payback may not appear quite so attractive.

But with pressures to implement NetZero targets and by proactively reducing the emissions from your operations and value chain, you will be more able to increase your resilience and competitiveness in a low-carbon economy.

Your NetZero target can be achieved through:

- Reduced energy costs and exposure to fossil fuel market volatility.
- Building more efficient, less wasteful operations.
- Proactively identifying and driving emission reductions in your supply chain.

The following pages in this report outline the energy saving opportunities identified following the site visit.

6.2 Energy Management Plan

The management of energy is often neglected, even though there is considerable potential to save energy and reduce costs. Rising energy prices, climate change legislation and the need to be environmentally responsible all require effective energy management.

Whilst energy use at the site is an important consideration, it is thought there is no formal strategy in place specifically related to reducing consumption, lowering use related energy costs and minimising CO_2 emissions.

Year 1 Savings		Guide Price
› Energy:	2%	£500
› Cost:	2%	Payback Period 2.8 years
› Carbon:	2%	

We recommend that an energy strategy be implemented to help achieve these aims.

The first step towards achieving this is to devise and implement a company energy policy. An effective policy needs to be directly relevant to the organisation and appropriate to its nature and size. It should provide a clear focus for the organisation's objectives and be the formal expression of the senior management's commitment to and ownership of the issue.

An energy strategy is a working document setting out how energy will be managed in an organisation. It should contain an action plan of tasks, which will involve understanding the organisation's current position and establishing the management framework.

A complete and effective energy strategy will address the following aspects:

- Organising roles and responsibilities and ensuring there are sufficient resources available.
- Compliance with energy and climate change regulations required of businesses and the public sector.
- Investment in projects will be needed to take full advantage of cost-effective energy efficiency opportunities.
- Procurement of buildings, equipment and services should take due account of the implications for energy efficiency and energy related costs.

Organisations can have their energy management system certified to a recognised standard, of which the main example is ISO 50001.

As a guide an energy policy should include the following:

- Allocation of energy management responsibility
- Fuel purchasing
- Staff energy awareness and training
- Identification of energy saving measures (surveys)

- Allocation of financial commitment to save energy
- Financial assessment criteria for ‘spend to save’ projects
- Purchasing of energy efficient goods and services
- Ongoing energy monitoring and targeting

It is therefore suggested that Genius Sports formally adopts an effective energy management strategy and an energy policy.

The adoption of a formal written energy policy is an important prerequisite to energy management because it acts as:

A public expression of an Organisation’s commitment to energy conservation and environmental protection.
A working document to guide an Organisation’s energy management practices and provide continuity.

The energy policy document should be supplemented by an Energy Management Guide and made available to all staff. The guide would contain background information relating to energy consumption and costs and explain how each member of staff can contribute to energy efficiency. This would show the company’s commitment.

6.3 Review and Optimize Air Conditioning Set-point in the Comms Rooms

Year 1 Savings		Guide Price
› Energy:	1%	£0
› Cost:	1%	Payback Period n/a
› Carbon:	1%	

The air conditioning unit present in the comms rooms may benefit from simple actions that come without cost, such as making better use of temperature controls.

Review, control and manage the environmental condition (set point) in the comms rooms. Chartered Institute of Building Services Engineers (CIBSE) recommends average air conditioning set point in a computer room to be between 21°C to 24°C.

A degree rise in AC temperature will save approximately 3% of the cooling load. It is therefore suggested to increase the set point of the air conditioning unit in the server room by 2°C. This will save approximately 6% of the cooling load electricity consumption.

Air conditioning is not sub metered, therefore an estimate of its annual consumption has been made to determine potential energy savings, as described below:

A total cooling power input of 11.76 kW and the energy efficiency ratio (EER) of 3.62 has been estimated from the technical data sheets of the AC unit.

Based on the power input, and 24 hours per day operating hours of the server room, with 80% utilisation factor, use of air conditioning is estimated to result in electricity consumption of 15,510 kWh per year.

Based on this calculation, 6% saving can be achieved by no cost actions, such as limiting temperature setting to levels recommended by the Chartered Institute of Buildings Services Engineers (CIBSE). Annual energy savings of 931 kWh and cost savings of £93 could be achieved. There is no capital cost involved for this recommendation as the temperature in the Comms rooms can be increased in the BMS.

6.4 Install Time Clocks to Electric Water Heaters

There are 3 electrically heated hot water taps present. None have timers installed and therefore heat continuously throughout the day and night.

Based upon a total storage capacity of 9 litres, and on heating mains water with a 32°C increase, the total power required per heating cycle has been calculated to be 0.33 kW.

Year 1 Savings		Guide Price
› Energy:	1.25%	£450
› Cost:	1.25%	Payback Period 4.03 years
› Carbon:	1.25%	

The specification also states that each unit uses 0.50kW on standby (during a 12hr period).
Whilst the energy use from these heaters is relatively low, the addition of a low-cost timer to each unit will prevent water from being heat out of hours when not required.

The figures above assume a 76% saving is possible based upon the opening hours of the building, at a cost of £150 per unit.

6.5 General energy saving advice

Building Controls

All major building controls should be reviewed periodically to ensure energy consuming systems and equipment are not contributing to energy waste.

Building equipment can be controlled in a variety of ways, from centralised building management systems that can monitor and react to the building environment in real time to localised control systems operated at the point of use with limited functionality.

Whilst the range of equipment controls required will differ from one site to the next, design of control systems should always be appropriate to the equipment installed and the way it is intended for use. If buildings change or the way in which they are used changes, then building controls should again be reviewed to ensure they remain appropriate.

The following list gives suggestions of things to check or consider when reviewing how controls can be improved:

- Encourage users to switch off equipment when not in use and to avoid operating conditions that could cause energy waste. Provide training if necessary.
- Consider removing auto-on controls for all non-essential equipment.
- Consider installing auto-off timers on equipment that's likely to be left switched on when unattended.
- Upgrade timed controls from basic on / off set periods to include 7-day timer functions with multiple periods per day.
- Review operating hours and ensure system timers are set accordingly.
- Confirm system outputs affected by controls match expected demand.
- Ensure all sensors impacting control systems are regularly serviced can calibrated in line with manufacturers recommended guidelines.
- Carry out planned preventative maintenance activities on all equipment downstream of the controls to improve performance and optimise benefits from intelligent control systems.

Lighting

Lights are often left on because switching is inadequate. Better manual switches may be sufficient, but only if they are well located, clearly marked and staff are appropriately trained. Photoelectric control may be appropriate in areas with good daylight and clean, unobstructed windows. In intermittently used spaces such as storage areas and where people cannot easily operate light switches, electronic presence-sensing controls can reduce consumption. For lights which need to be on for long hours, the most efficient sources and fittings should be used. If lights are on unnecessarily, then controls may need attention. Often a case can be made for doing both. External lighting may also offer good scope for improved efficiency, both with more efficient lamps and fittings, and by making sure that lamps are not on during daylight hours.

Disclaimer

All savings, costs and paybacks are presented for indicative purposes only to highlight the saving opportunities that may be available. These may be significantly different from actual costs and savings. Full detailed site surveys and quotations for the above individual recommendations should be carried out to determine the exact savings and payback that could be achieved. Recommendations make use of ‘Simple’ payback calculations and ‘Life Cycle’ payback calculations where possible. Potential savings from one recommendation may offset another causing significant impact. This report is the opinion of Inspired PLC and provided for information purposes only. Inspired PLC will not be held liable for your subsequent use of the information. The report remains the copyright of Inspired PLC.

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