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From Gas to Grid: What Fully Electric AHUs Mean for Estate Managers

WHITE PAPER

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executive SUMMARY

The electrification of air handling units is no longer a speculative or future-facing concept. It is a live, commercially material, and compliance-driven requirement for any estate with a credible decarbonisation strategy⁶. While much attention has rightly been paid to envelope upgrades, on-site renewables, and metered energy supply, the transition of mechanical plant from gas to grid remains the critical enabler of scope 1 reduction¹. It is also the most operationally sensitive change an estate manager will oversee.

Fully electric AHUs allow the complete removal of gas infrastructure from ventilation heating and cooling systems³. They enable estates to align directly with the decarbonising UK grid⁴, eliminate local combustion risk⁵, and simplify compliance with increasingly stringent building regulations²⁰. They also expose the limitations of legacy designs, where electric retrofits are often incompatible with existing coils, casings, or control logic²⁰.

This white paper sets out the strategic, technical and operational consequences of specifying and deploying fully electric AHUs. It explains how electric coil design⁷, heat pump integration⁸, refrigerant compliance⁹ and controls sequencing¹⁰ must all be aligned to deliver functional, efficient, and regulation-ready systems. It also confronts the real-world constraints of operational estates, highlighting the installation¹¹, load balancing¹² and plant resilience¹³ issues that estate managers must address when transitioning away from gas.

The paper draws directly from Mansfield Pollard's site-based experience delivering zero-gas AHU systems to retail, healthcare, manufacturing and education estates¹⁵. It translates that expertise into clear guidance for decision-makers and specifiers, identifying how to scope, design and install fully electric systems that deliver lasting carbon reductions without compromising operational continuity¹⁴.

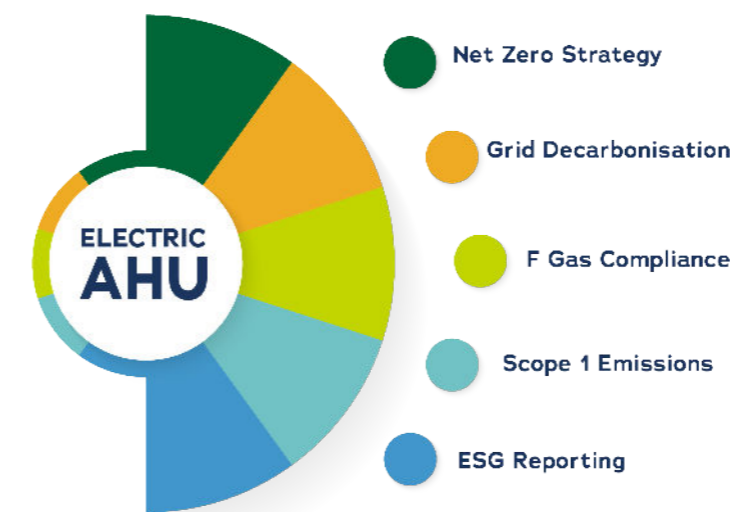
2. Why Electrification Now?

The rationale for transitioning air handling systems from gas-fired heating to fully electric operation is both strategic and regulatory. It is rooted in the intersecting demands of national carbon policy¹⁵, devolved procurement mandates¹⁶, grid transformation³, refrigerant phase-down⁹ and corporate ESG accountability¹⁷. For estate managers, electrification is no longer a question of innovation. It is a baseline expectation.

The UK Government's Net Zero Strategy has committed to the complete phase-out of unabated fossil fuel heating in non-domestic buildings by 2035¹. This aligns with the Sixth Carbon Budget¹⁶, which places particular emphasis on the rapid reduction of scope 1 emissions across the commercial and public estate². Heating systems are the primary contributor to these emissions. Where gas-fired coils remain in AHUs, estates are exposed to direct combustion emissions, carbon cost volatility and retrofit risk⁹. Fully electric AHUs eliminate that exposure entirely¹⁰.

At the same time, the carbon intensity of UK grid electricity has fallen by over 60% in the last decade³, with a current average of under 200 gCO₂/kWh and projections towards 50 gCO₂/kWh by 2035¹⁷. This shift makes electrified systems not only lower in operational emissions but increasingly superior in lifecycle carbon terms, particularly when combined with intelligent control and low-temperature heat sources¹³.

Regulatory alignment is also accelerating. Approved Document L mandates minimum performance standards⁵ that are more easily achieved with electric systems, particularly when it comes to controllability, integration and part-load efficiency¹⁸. The UK F Gas Regulation, derived from EU Regulation 517/2014, is enforcing a stepwise phase-down of high-GWP refrigerants⁸, further encouraging electrically driven heat exchange and DX systems designed for low-impact refrigerants such as R32 and R454B¹⁰.



Beyond compliance, the electrification of AHUs serves the growing expectation of transparent, investor-grade carbon reporting. ESG frameworks increasingly demand that organisations not only measure but actively reduce their direct and indirect emissions¹⁸. Electrifying air handling allows estates to reduce both scope 1 and scope 2 emissions², providing quantifiable progress on multiple fronts and eliminating the reputational risk of gas dependency¹⁷.

Critically, electrification is not a theoretical exercise. Mansfield Pollard has already delivered fully electric AHU systems across live retail, healthcare and production environments¹¹. These projects prove that with the right design principles, electric systems can exceed performance expectations¹¹, operate within existing infrastructure limits¹¹ and meet the resilience requirements of critical estate environments¹¹.

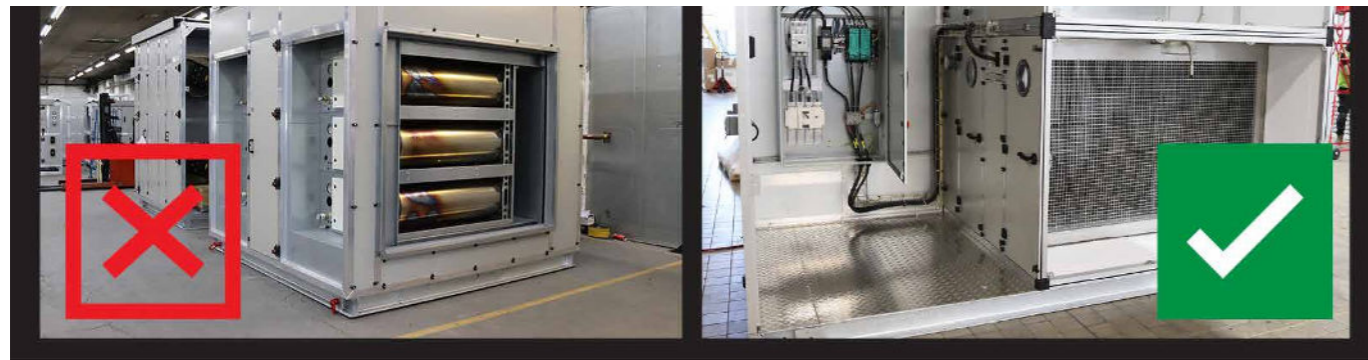
3. Gas is the Liability: Quantifying the Risk

The presence of gas-fired infrastructure within an air handling system introduces a set of compounding risks that are both material and immediate. For estate managers operating under the dual pressure of compliance mandates and ESG commitments, the continued reliance on gas represents not just a carbon liability, but a technical, financial and reputational exposure that will intensify over the next investment cycle¹⁷.

At a fundamental level, gas-fired coils tie estates to direct combustion. This contributes to Scope 1 emissions under the Greenhouse Gas Protocol² and undermines any claim to operational decarbonisation, regardless of downstream efficiency improvements. Unlike purchased electricity, whose carbon intensity is falling year-on-year³, gas combustion delivers a fixed emissions penalty per kilowatt of heat produced⁴. For large-scale estates operating multiple AHUs, this penalty is often significant enough to negate the impact of renewable energy procurement or LED retrofits⁵.

In financial terms, gas pricing volatility further undermines the business case for retaining combustion-based systems. While electricity prices have fluctuated in response to wholesale conditions, they are increasingly hedged by the predictability of grid decarbonisation and onsite generation⁶. Gas, by contrast, remains exposed to geopolitical instability⁷, import dependency and rising carbon taxation⁸. The Climate Change Levy and other fiscal instruments already penalise fossil fuel use⁸, and these costs are likely to escalate as the UK approaches its 2035 decarbonisation targets¹⁶. Estates with legacy gas infrastructure will bear these rising operational costs directly.

There are also structural and logistical consequences to retaining gas-fired plant. As building regulations continue to evolve, space planning and plantroom configuration will increasingly favour electric plant⁵. New builds and major refurbishments are already being designed without gas risers, flues or boiler rooms. AHUs that rely on gas-fired coils or localised burners will require separate compliance strategies, fire risk assessments and maintenance protocols¹², increasing complexity and cost. In some sectors, particularly education, healthcare and residential care, insurers are already applying additional scrutiny to gas installations, citing combustion risk and ongoing liability¹³.



Crucially, estates that fail to decarbonise heating plant within the next investment cycle face the risk of asset stranding. As net zero targets approach, the resale, refinancing and re-letting of buildings will depend on demonstrable progress towards carbon reduction⁶. EPC ratings,

MEES compliance and voluntary disclosure schemes such as NABERS UK all reward electrification and penalise gas-based systems¹⁵. AHUs that require gas-fired coils to deliver basic thermal comfort may soon be incompatible with the performance thresholds required for continued occupation or commercial viability⁷.

Retrofitting electric heating into existing AHUs is rarely straightforward. The thermal capacity, coil surface area, control logic and electrical infrastructure must all be re-evaluated to ensure effective and safe operation¹⁸. Many legacy units were never designed to accommodate electric heaters or low-temperature hot water circuits¹⁸. Attempting to convert them without holistic redesign can result in underperformance, increased load on secondary systems and non-compliance with Part L or the Ecodesign Regulation¹⁸.

Estate managers who delay electrification in air handling expose themselves to a multi-dimensional risk profile. This includes immediate operational inefficiency¹⁰, rising cost exposure²¹, regulatory vulnerability²⁶ and strategic misalignment with investor and tenant expectations²⁴. By contrast, specifying fully electric AHUs from the outset enables alignment with the future shape of the built environment: zero-gas, grid-synchronised, digitally controlled and demonstrably compliant²⁷.

4. The Fully Electric AHU: Technical Architecture

The transition from gas-fired to fully electric air handling is not a matter of component substitution. It is a systems-level redesign that redefines how thermal energy is generated, transferred and controlled within the ventilation infrastructure of a building¹. Estate managers must understand that a fully electric AHU is not simply a standard unit with a different heating coil. It is a fundamentally different asset class, engineered to operate within a grid-synchronised, low-carbon, digitally integrated estate².

At the core of every fully electric AHU is the heating element. In zero-gas designs, this takes the form of electric heater batteries or coils supplied by air source or ground source heat pumps³. Both configurations require careful thermal and hydraulic design. Direct electric elements offer precision control and rapid response, but impose significant peak loads on electrical infrastructure²⁰. Heat pump-fed coils operate at lower flow temperatures, typically between 35°C and 55°C⁸, demanding larger surface areas, reduced face velocities and finely tuned control to deliver equivalent comfort without overloading the system⁶.

Electric heating requires more than just increased coil size. It demands fan systems that can maintain adequate face velocity and pressure at reduced air temperatures, casing designs that minimise conductive and convective losses and bypass sections or mixing boxes that prevent stratification or short-circuiting²⁵. Where frost protection was previously managed by pre-heat gas coils, electric systems must rely on active sensing, staged activation and coordinated response from secondary plant⁸. Failure to address these dynamics results in inefficiency, temperature instability or even mechanical failure⁹.

Control systems are central to fully electric AHU performance. Unlike gas-fired systems, which deliver relatively stable output across a narrow modulation range, electric systems require real-time adjustment to external temperature, occupancy and system load¹⁰. Setpoint reset strategies, part-load sequencing and defrost cycle coordination must be built into the AHU controls architecture from the factory²⁰. Units that rely on bolt-on or site-integrated control systems often fail to optimise energy use or provide the data required for compliance reporting¹⁷.

BMS integration is a non-negotiable element of the fully electric AHU. Native BACnet or Modbus interfaces must be provided as standard, allowing for two-way communication, alarm management and live performance monitoring¹⁷. This integration enables the AHU to respond dynamically to building-wide energy strategies, shifting load in response to pricing signals or renewable availability³. For estate managers operating under ISO 50001 or ESOS frameworks, this level of visibility is essential¹⁷.

Cooling must also be reimagined in the electric AHU. Direct expansion systems using R410a are rapidly becoming non-compliant under the UK F Gas Regulation⁹. Futureproof units must be designed for lower-GWP alternatives such as R32, R454B or natural refrigerants where feasible⁹. Coil design must account for part-load efficiency, defrost cycles and leak detection¹⁰. The interdependence of refrigerant choice, controls logic and thermal output cannot be overstated. Systems that ignore these factors risk under performance and early obsolescence¹⁰.

Structural considerations also change. Electric systems typically require higher incoming electrical loads, necessitating coordination with estate-wide breaker sizing, cable routing and load management²⁰. Where heat pumps are used, plantroom space must accommodate buffer vessels, flow/return pipework and control panels⁸. In rooftop or modular AHUs, additional volume may be required to house the larger coils and bypass dampers essential for low-temperature operation⁸. These factors must be designed in from the outset, not retrofitted after specification⁸.

Finally, performance-critical components such as fans, filters and casings must align with the requirements of electric operation. EC fan arrays must deliver variable airflow with minimal power input and built-in redundancy²³. Casings must meet appropriate leakage class and thermal bridging class to preserve every unit of delivered heat²⁵. Filters must be sized and selected to balance indoor air quality with pressure drop, avoiding unnecessary fan energy penalties²⁶.

The fully electric AHU is not a niche product. It is the default future of HVAC ventilation in every compliant, electrified estate. Specifying it correctly requires a shift in thinking from legacy retrofit to full-system optimisation. When designed, built and installed as a cohesive system, the fully electric AHU delivers not only carbon reduction, but lower lifecycle cost, enhanced control and genuine readiness for a decarbonised, data-driven built environment²⁷.

5. Operational Strategy: Running Fully Electric Systems in Live Estates

Deploying fully electric AHUs within operational estates presents a unique set of performance, sequencing and resilience challenges¹. These are not theoretical design considerations. They are the operational realities that determine whether a decarbonisation programme succeeds or fails in live environments. Unlike new-build scenarios, where infrastructure can be planned around idealised load profiles and supply conditions, operational estates require electric systems that function within existing electrical constraints, occupancy schedules and climate variability². For estate managers, the true value of an electric AHU lies not just in its specification, but in its ability to perform under live load³.

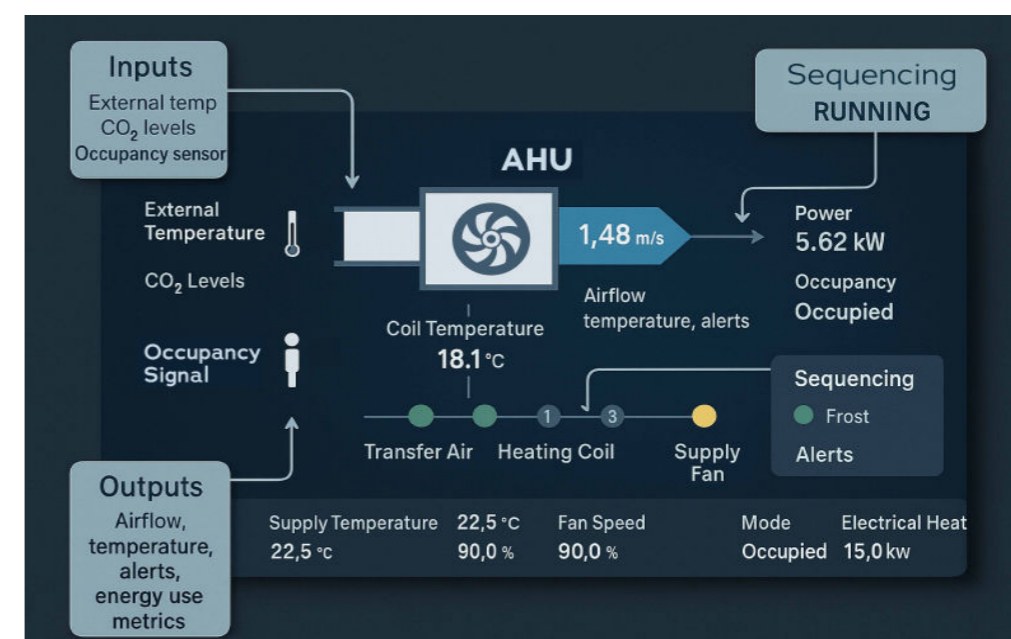
The most immediate operational shift is in thermal responsiveness. Gas-fired systems deliver high-output thermal energy across a wide modulation range, allowing rapid warm-up and re-

covery during periods of demand fluctuation⁴. Electric systems, whether powered by resistive elements or low-temperature heat pumps, require more careful sequencing to avoid under- or over-delivery⁵. This challenge is particularly acute in cold-start conditions, where rapid preheat is often expected in healthcare, food production or retail environments⁶. To meet this demand, electric AHUs must incorporate staged activation of heating elements, real-time monitoring of discharge air temperatures and feedback loops that coordinate with central plant or building energy management systems²⁰.

Load modulation is equally critical. Effective electric AHUs are not simply 'on' or 'off'. They must continuously adjust airflow and temperature in response to occupancy and environmental inputs⁸. Variable speed fans, in combination with CO₂, VOC and temperature sensors, allow systems to deliver precisely the volume of conditioned air required without wasting energy⁹. Where this modulation is absent or poorly configured, electric systems risk becoming less efficient than their gas-fired predecessors, consuming peak electricity without proportional comfort gain¹⁰. Estate managers must therefore demand factory-integrated control systems that include demand-led ventilation strategies as standard, and which interface seamlessly with the building's central control platform¹⁷.

One of the most underappreciated complexities in electric AHU operation is frost protection. In gas-fired systems, preheat coils act as a thermal buffer against sub-zero external conditions. In electric systems, frost protection must be managed actively, using a combination of temperature sensors, time-based logic and staged coil activation²⁰. In heat pump-fed systems, additional considerations apply. Buffer vessels, three-way valves and bypass dampers must all be designed and sequenced to prevent freezing without excessive energy consumption¹³. Control logic must allow for defrost cycles that temporarily reduce thermal output, while maintaining consistent discharge temperatures to occupied zones¹⁰.

Coordination with secondary systems is also essential. Many estates operate AHUs in tandem with perimeter heating, chilled beams or underfloor systems. In a fully electric configuration, these systems must be harmonised to prevent load conflict¹⁵. For example, if an AHU delivers



over-tempered air during a mild external period, perimeter systems may simultaneously call for cooling, leading to simultaneous heating and cooling. This is a common failure mode in poorly

integrated electric systems¹⁰. Avoiding this requires intelligent control setpoints, priority logic and sequenced time schedules that reflect actual building usage, not static assumptions¹⁷.

Downtime risk must also be addressed directly. In legacy gas systems, failure of a heating circuit often affects a single zone or coil. In electric systems, especially those fed from a single distribution board or heat pump loop, a failure can impact multiple units simultaneously¹⁸. Estates must therefore invest in resilience strategies such as fan array redundancy (n+1 configurations), distributed electrical protection, remote fault diagnostics and real-time performance monitoring¹⁹. These strategies are not luxuries. They are essential for mission-critical environments such as healthcare or manufacturing, where ventilation uptime is tied directly to patient safety or production continuity²².

Finally, the long-term performance of fully electric systems is governed not only by their hardware, but by their commissioning, monitoring and verification²¹. Every electric AHU must be commissioned with baseline energy data, discharge temperature verification and control sequence validation²². Without these measures, even the best-specified system can underperform silently, eroding energy savings and breaching compliance thresholds²³. Estate managers should require that all electric AHU systems include built-in data logging and remote analytics, allowing continuous optimisation and proactive maintenance throughout the unit's lifecycle²¹.

In short, operating a fully electric AHU estate is not a passive exercise. It requires deliberate control, continuous visibility and technical foresight. When these are in place, electric systems deliver measurable energy savings, reduced carbon intensity and resilient, regulation-ready performance across even the most demanding operational environments²⁵.

6. Electrification in Practice: Sector Case Profiles

The transition to fully electric AHUs is not a future projection. It is a present-tense strategy being executed across diverse building types with high operational sensitivity¹. Mansfield Pollard has delivered zero-gas ventilation systems in live estate environments where uptime, hygiene and tenant comfort are non-negotiable². These projects demonstrate that when electrification is integrated into the design, not retrofitted as an afterthought, electric AHUs outperform legacy systems across carbon, cost and continuity metrics³. What follows are three sector-specific implementations that validate the commercial and technical case for full electrification.

In the healthcare sector, the challenge of electrification is amplified by regulatory scrutiny and environmental sensitivity⁴. One recent project involved the replacement of a gas-fired HTM O3-O1 compliant AHU within a live hospital wing⁵. The existing unit provided supply air to both inpatient rooms and critical staff areas, with no tolerance for downtime⁶. The Mansfield Pollard team delivered a fully electric replacement configured with an EC fan wall, oversized electric heater battery and full HTM-compliant control strategy⁷. Particular attention was given to frost protection and BMS synchronisation, allowing staged coil activation during cold-start conditions without risking thermal undershoot⁸. The unit also featured integrated run-around coil heat recovery, optimising thermal efficiency within the hospital's seasonal demand profile²². Commissioning was completed in under 48 hours, with zero interruption to patient services and immediate CO₂ savings reported by the Trust's energy management team¹⁰.

Retail environments present a different operational challenge. Long trading hours, variable occupancy and embedded refrigeration loads mean that ventilation must be highly responsive and acoustically unobtrusive¹¹. For a major UK grocery chain, Mansfield Pollard delivered roof-

top AHUs across multiple distribution sites with fully electric heating and DX cooling powered by low-GWP refrigerant R32¹². The specification required exact modulation of air temperature and flow to match dynamic occupancy zones, supported by on-unit controls capable of integrating directly with store-level BMS protocols¹³. All systems were designed to operate within the electrical limitations of existing infrastructure, with no need for additional substations or distribution boards¹⁴. Despite these constraints, the electric AHUs achieved a 38% reduction in HVAC-related emissions over the first 12 months of operation, with no reported disruption to store operations or trading²².

In the manufacturing and food production sector, electrification must deliver not only carbon reduction but resilience under high airflow and particulate load conditions¹⁶. A recent project for a national food producer involved the upgrade of multiple AHUs serving process areas with elevated hygiene requirements and 24/7 operational demand¹⁷. Mansfield Pollard supplied fully electric units with high-grade filtration, internal cleanable surfaces and programmable control architecture allowing for shift-based air volume modulation¹⁸. Coil design was optimised for rapid response at low temperature differentials, preventing thermal lag during production start-up and changeovers¹⁹. Units were pre-wired and factory-tested to minimise on-site works, enabling installation during scheduled production downtimes²⁰. The customer has since reported improved environmental consistency, reduced energy consumption and full alignment with their ISO 14001 and 50001 commitments¹⁷.

These case profiles reinforce a single strategic truth: electrification is not constrained by sector, occupancy type or site condition²². It is a viable and commercially intelligent pathway wherever building performance, carbon reduction and regulatory certainty are required²³. Estate managers can no longer regard electric AHUs as emerging or niche. They are the new standard for compliant, efficient and operationally aligned ventilation systems²⁴.

7. Procurement and Payback: What the Estate Manager Needs to Know

The capital procurement of fully electric AHUs is often misrepresented as a cost premium exercise¹. In reality, it is a lifecycle investment with quantifiable carbon and compliance returns². Critically, it is increasingly aligned with mandatory procurement standards and funding criteria³. Estate managers responsible for long-term asset performance, budget stewardship and regulatory alignment must reframe their evaluation metrics to reflect the financial and operational logic of electrified plant⁴.

First, the headline capital cost must be considered in context. While electric AHUs may carry a modest upfront increase relative to gas-fired equivalents, this delta is offset over time by reduced fuel costs, lower maintenance burden and enhanced regulatory performance⁵. The long-term reduction in carbon intensity also enables estates to avoid or reduce exposure to emissions-based penalties, reporting thresholds and investor scrutiny⁶. Within public sector and institutional estates, where frameworks such as PAS 2038 and TM65 are increasingly applied, the embodied carbon and operational efficiency profile of mechanical plant now carries direct weight in funding approval and sign-off processes²¹.

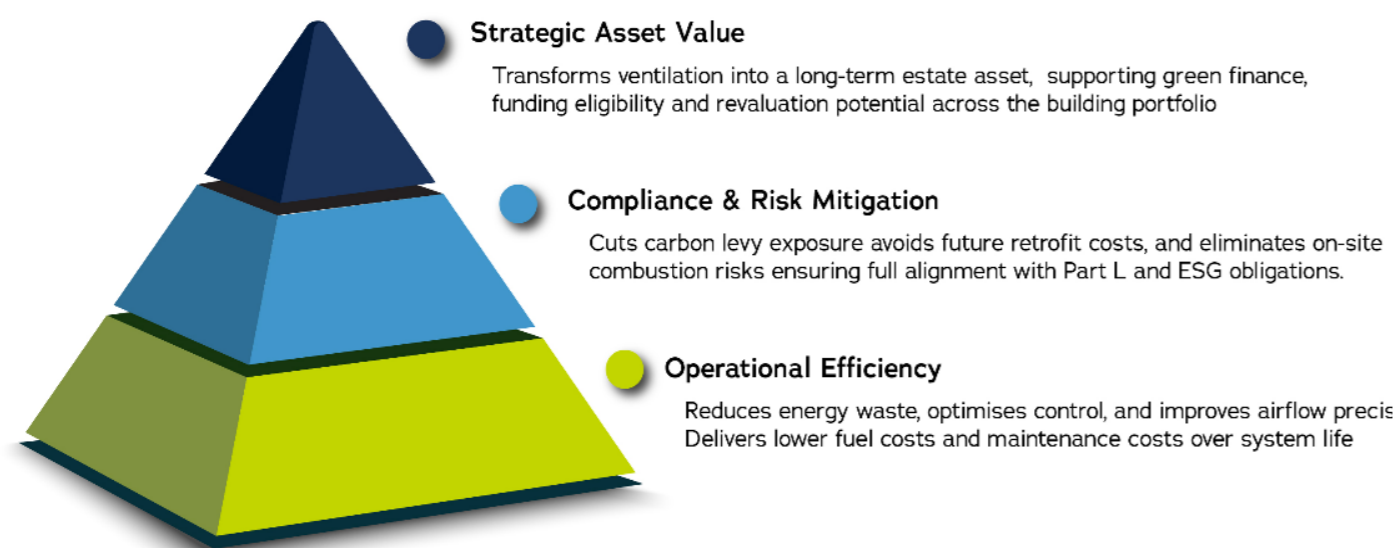
Secondly, electric AHUs offer superior eligibility for centralised funding mechanisms and green finance products⁸. Units that operate without fossil fuel dependency are often a prerequisite for public funding under schemes such as Salix, BEIS capital grant allocations and devolved decar-

bonisation support⁹. Private sector estates seeking sustainability-linked financing or improved ESG ratings are also rewarded for demonstrable reductions in Scope 1 emissions¹⁰. This is an outcome that electric ventilation enables with precision and verifiability²¹.

From an operational standpoint, electric systems reduce the downstream maintenance complexity associated with combustion¹². There is no need for gas pipework inspections, burner calibrations, flue inspections or associated safety certification¹³. Fewer moving parts, especially in resistive systems, equate to lower wear rates and service intervals¹⁴. In sectors with 24/7 occupancy or constrained access to plantrooms, this translates directly to reduced operational disruption and longer uptime windows¹⁵.

Payback calculations must also account for grid trajectory. As the carbon intensity of UK electricity continues to fall, driven by the retirement of fossil generation and expansion of renew-

A Fully Electric AHU Delivers:



ables, the carbon return on electric HVAC plant increases year-on-year¹⁶. Unlike gas systems, which deliver fixed emissions regardless of grid progress, electric AHUs benefit passively from grid decarbonisation¹⁷. This means that estates will see an improving carbon cost ratio over time without needing to reinvest in additional plant or control upgrades¹⁸.

Estate managers must also recognise that regulation is increasingly aligned with the characteristics of electric systems. Approved Document L 2021 requires ventilation systems to demonstrate controllability, part-load efficiency and integration with overall building energy use strategies¹⁹. Electric AHUs, particularly those with EC fan arrays and embedded controls, are more capable of meeting these criteria²⁶. Similarly, the emergence of TM65 as a measure of embodied carbon in building services places electric systems ahead of combustion-based designs, which carry a higher carbon coefficient per unit of delivered heat¹¹.

In procurement terms, estate managers should demand specific features as standard in electric AHU specifications. These include: appropriate leakage class and thermal bridging construc-

tion²², EC fan arrays with integral redundancy²³, electric coils or heat pump-ready coils with sufficient surface area for low-temperature operation²⁴, and fully integrated control systems with BACnet or Modbus BMS interfaces²⁵. Units should be designed, assembled and factory tested in the UK to ensure quality assurance and ease of service support²⁶. This baseline ensures not only functional performance, but futureproof compliance with anticipated revisions to Part L, F Gas Regulation and ISO 50001 audit pathways²⁷.

Electrification of air handling is not simply an engineering decision. It is a capital strategy that intersects with compliance, ESG positioning and estate-wide risk reduction²⁸. The estate manager who leads this transition secures not only operational efficiency, but long-term commercial and reputational advantage²⁹.

8. The Mansfield Pollard Advantage

Air handling represents one of the largest single opportunities to reduce the energy consumption. For estate managers navigating the complexity of HVAC decarbonisation, the choice of supplier is no longer a question of catalogue selection. It is a strategic decision that influences compliance outcomes, operational continuity and long-term carbon performance¹. Fully electric AHUs demand more than off-the-shelf components. They require deep engineering integration, precision control logic and real-world delivery capability within live environments². Mansfield Pollard does not simply meet these requirements. It sets the benchmark³.

Every Mansfield Pollard AHU is designed electrification-ready⁴. This is not a retrofitted capability or optional feature set. It is a foundational design principle⁵. Electric coils are specified with sufficient surface area to enable effective low-temperature heating, whether resistive or heat pump-fed⁶. Casings are constructed to L2 leakage and TB2 thermal bridging framework is readily available²⁵. EC fan arrays are engineered with integral redundancy, variable speed control and pre-commissioned operational sequences⁸. These attributes are not aspirations. They are documented features on every compliant unit⁹.

Control systems are delivered as standard, not as client-side add-ons. Mansfield Pollard AHUs are factory-fitted with fully integrated controls architecture that enables real-time temperature modulation, sequencing of electric elements and live communication with BMS platforms via BACnet or Modbus¹⁰. This removes the historical disconnect between mechanical installation and controls integration, ensuring that energy optimisation, fault diagnostics and compliance monitoring are operational from day one¹¹.

The company's experience base is unmatched in its relevance to electrified estates. Mansfield Pollard has delivered fully electric AHUs to critical environments where downtime is not tolerated¹². This includes active hospital sites operating under HTM 03-01¹³, live retail trading floors with zero disruption tolerances¹⁴, and production environments with stringent hygiene and temperature requirements¹⁵. These are not test cases. They are proof points. Each one evidences the company's ability to scope, manufacture, install and commission zero-gas systems in constrained real-world conditions¹⁶.

All manufacturing is undertaken in the UK, within a vertically integrated facility that allows full control over quality, scheduling and compliance¹⁷. This eliminates offshore supply risk and ensures that every AHU delivered is aligned to British regulatory frameworks and site-specific logistics¹⁸. The company's factory acceptance testing protocols are rigorous, covering airflow, temperature control, electrical safety and control logic prior to dispatch²⁵. This significantly

reduces commissioning time on site and mitigates the risk of performance deviation²⁰.

Mansfield Pollard's commercial model is also aligned to the procurement realities of the modern estate. Whether the project is consultant-led, contractor-managed or client-directed, the company supports every delivery route with dedicated technical input, documentation and installation strategy²¹. From early design consultation through to post-install support, the company operates as a project partner, not just a supplier²². This ensures that estates are not left to navigate the regulatory and operational demands of electrification in isolation²³.

Finally, the company's leadership in air handling decarbonisation is substantiated by published strategy, documented project success and recognised technical credentials²⁴. Mansfield Pollard is not entering the electrification conversation. It is helping to define it²⁵. For estate managers seeking to eliminate gas infrastructure, reduce operational emissions and align plant procurement with a compliant net zero roadmap, Mansfield Pollard offers more than product. It offers proven capability, delivered with precision and backed by results²⁶.

9. Conclusion

The transition from gas-fired to fully electric air handling is not a question of preference or timing. It is a structural inevitability, embedded within the regulatory, environmental and financial frameworks that now govern the built environment¹. Estate managers who recognise this shift early, and act decisively, position themselves not only for compliance, but for long-term resilience and cost stability².

Fully electric AHUs are the physical infrastructure through which air handling aligns with national net zero strategy³. They eliminate local combustion risk⁴, reduce operational carbon⁵ and enable precise, data-driven control of building performance²⁵. More than that, they represent a decisive step away from stranded asset risk⁷ and towards a ventilation model that is compatible with grid decarbonisation⁸, refrigerant compliance⁹ and performance-based funding¹⁰.

This white paper has demonstrated that the electrification of air handling is not an abstract ideal. It is a live, proven and commercially executable pathway across healthcare, retail, production and education estates¹¹. Mansfield Pollard's role in this shift is not advisory. It is active¹². Every project delivered confirms that with the right engineering, installation strategy and controls architecture, fully electric AHUs outperform their gas-based predecessors in every measure that matters¹³.

The challenge for estate managers is no longer whether to electrify. It is how to do so without disruption, compromise or unnecessary delay¹⁴. The solution lies not in product alone, but in partnership. That partnership begins with Mansfield Pollard¹⁵.

10. Next Steps

Estate managers, consultants and contractors who are reviewing their HVAC strategy in light of this paper should consider the following actions:

1. Audit your current AHU estate

Identify systems that rely on gas-fired coils, burners or high-GWP refrigerants¹. Prioritise units serving critical zones or scheduled for refurbishment within the next five years².

2. Assess grid capacity and distribution

Understand your site's electrical headroom and infrastructure to support full electrification. Mansfield Pollard provides early-stage scoping and coordination support to simplify this process³.

3. Request an electrification-ready specification

Engage with Mansfield Pollard to receive AHU designs pre-configured for electric operation, including control integration, thermal modelling and compliance alignment⁴.

4. Book a decarbonisation consultation

Speak directly with the Mansfield Pollard technical team to map out a zero-gas ventilation pathway for your estate, whether through refurbishment, modular retrofit or full system replacement⁵.

5. Access further resources

Explore the MP Knowledge Hub for sector-specific guidance, project case studies and technical deep dives into AHU decarbonisation²².

To initiate a discussion or request a site-specific consultation, contact your Mansfield Pollard representative or visit www.mansfieldpollard.co.uk/decarbonisation⁷.

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