



National HVAC Transformation

Powering Estates Towards Net Zero



HVAC DECARBONISATION
Air Handling Solutions by Mansfield Pollard

DECARBONISATION SPECIALISTS

delivering net zero NATIONWIDE



DECARBONISATION SOLUTIONS DELIVERED

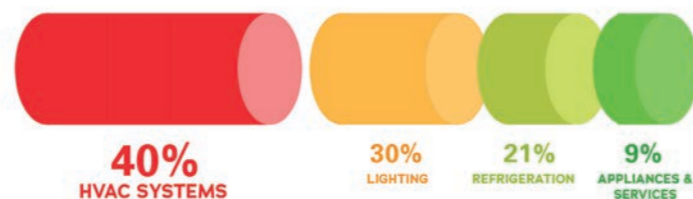
Air handling units are the silent driver of your decarbonisation strategy. Whether you are retrofitting ageing plant, transitioning to fully electric HVAC, or designing for future-ready compliance, our **bespoke, modular, and refurbished AHU's deliver net zero performance without compromising your operation.** From design through to installation and control integration, we deliver the United Kingdom's most complete in-house air handling decarbonisation capability.

WHY HVAC IS ON THE DECARBONISATION FRONT LINE

Across the UK's commercial landscape, the battle to decarbonise estates is intensifying. For estate managers, the focus has shifted to the plantrooms, rooftops, and ventilation cores that quietly account for the lion's share of operational emissions. HVAC systems are no longer background infrastructure. They are ground zero for decarbonisation.

Air handling units are now a strategic asset. In a climate of volatile energy pricing, ESG accountability, and intensifying regulatory pressure under Part L, the cost of inaction is rising fast. Legacy gas-fired systems are

TYPICAL BUILDING OPERATING COSTS
source: CBSE Guide B2



energy-intensive, emission-heavy, and increasingly unfit for purpose. But wholesale replacement is not simple. Estates are complex. Downtime is expensive and comfort must be preserved:

THE INTEGRATED AHU DECARBONISATION MODEL



Decarbonisation is rarely achieved through a single route. Most estates require a tailored combination of refurbishment, modular upgrades and bespoke solutions, with each pathway contributing differently to carbon reduction, compliance and operational resilience. We deliver all three in-house, meaning your project can blend **refurbishment** to extend the life of viable plant, **modular** units to overcome access or programme challenges, and **bespoke systems** to meet unique site requirements. The result is a fully integrated decarbonisation pathway that delivers measurable carbon savings, protects operations and aligns every asset on your estate with your net zero goals.

HVAC Decarbonisation Solutions

A NATIONAL PROGRAM WITH REAL RESULTS

High street retailers and supermarkets are delivering national programmes rather than a pilot. Hundreds of sites sit within scope and the objectives are clear. The estate must remove gas from HVAC, electrify the plant that replaces it and improve energy performance at pace across the portfolio.

The Challenge for Estates

The programme spans stores that differ markedly in age, fabric and layout. Many locations carry legacy ductwork, complex roof steels and planning conditions that restrict noise. All locations must remain open. Comfort for customers and colleagues cannot be compromised and acoustic impact on neighbouring properties must be carefully controlled. Any workable model needs to balance repeatability with the ability to adapt to each site's constraints.



A National Solution

To meet these conditions at scale, Mansfield Pollard provides an integrated model that combines standardisation and bespoke engineering. Base airflow frameworks at six, eight and ten cubic metres per second underpin the range and are adapted to the duties and physical constraints of each store. Return and supply connections are designed to land exactly on existing duct positions and to suit roof steels, which avoids structural intervention and reduces time on site. The model incorporates modular

Tesco estate decarbonisation



and bespoke AHUs alongside mechanical ventilation with heat recovery for office and welfare areas. Where a full heat recovery unit is required for food and café zones, rotary thermal wheels are applied within the dedicated HRU to maximise sensible recovery while maintaining comfort. All plant is selected for compatibility with low global warming potential refrigerants and is supplied with factory fitted controls that are pre configured for the client's BMS. The approach creates a repeatable blueprint that still respects the realities of live sites.

Delivery Without Disruption

The delivery strategy was built around live trading. Where crane access and logistics allowed, single piece lifts were used to minimise time on the roof. Where access or structure dictated, units were supplied in sectionalised form for rapid reassembly on site. Overnight windows were used to position and connect plant. Extended base frames and weathering details were engineered to suit the existing steels and curb conditions, which avoided rework. The result was a clean changeover with no interruption to trading.



NET ZERO DELIVERED AT SCALE

outcomes & PARTNERSHIP

TECHNICAL CERTAINTY IN COMPLEX ENVIRONMENTS

Bespoke Systems Built for Live Sites

Every installation demanded units engineered not just to specification, but to the physical realities of the store. Base frames were extended to align exactly with existing steels. Supply and return connections were positioned to land precisely on legacy ductwork routes, avoiding structural rework and cutting installation time. Each site received a bespoke connection strategy, balancing consistency with local adaptation.

WHY IT MATTERS: This approach avoids cost escalation, reduces risk, and ensures rapid, predictable delivery without unplanned downtime.



One-Piece or Sectional Delivery

Downtime was unacceptable. Where crane access allowed, AHUs were delivered in one lift, pre-assembled and ready for immediate connection. Where space was constrained, systems were sectionalised, craned to the roof and reassembled overnight. Every lift was scheduled for possession windows outside trading hours.

WHY IT MATTERS: Live environments remained fully operational. Customers and colleagues



experienced no disruption, even during major plant replacement.

Controls That Deliver Intelligence

All units were supplied with factory-fitted controls, fully wired, programmed and tested before dispatch. On site, integration with retailers BMS was immediate, providing live monitoring, CoP trending and remote access from day one.

WHY IT MATTERS: Estate teams gained full transparency of system performance, enabling optimisation, fault diagnosis and compliance reporting without additional commissioning time

Compliance and Carbon Reduction Built In

Each system was designed for R32 low-GWP refrigerants, ensuring compliance with current and future F-Gas regulations. Cold Air Retrieval systems recycled up to 80% of in-store air, controlling condensation and reducing heating demand. Rotary thermal wheels in HRUs maximised sensible energy recovery in café and food production zones.

WHY IT MATTERS: Systems are future-proof, resilient against tightening regulation, and engineered to deliver immediate carbon reduction.

DELIVERING RESULTS DEFINING THE FUTURE

The impact of this programme has already been felt across retailer's estate. The first wave of stores recorded a 10-point uplift in EPC performance, equivalent to moving a site up an entire efficiency band or materially strengthening its position within the same rating.

EPC+10

For estate managers, that translates into a direct reduction in compliance risk, improved asset valuation, and demonstrable progress against corporate net zero commitments.

Reduced Reliance on Fossil Fuels:

The replacement of gas-fired plant has removed reliance on fossil fuels and insulated stores from energy price volatility. It also positions the estate ahead of tightening F-Gas and Part L requirements, ensuring compliance today and resilience tomorrow. Most importantly, this programme has delivered transformation without disruption: customers continued shopping, colleagues continued working, and the business carried on trading while critical infrastructure was replaced overhead.

Repeatable Blueprint:

Equally significant is the replicability of the model. This was not a one-off intervention, but the creation of a repeatable blueprint that can be mobilised quickly and adapted to the conditions of each site. By combining airflow frameworks, bespoke connection strategies, and pre-configured controls, retailers now have a model they can deploy with confidence across a national portfolio.



Partnership in Action

The success of this programme reflects the capability of an entire ecosystem of delivery partners working at the highest standard.

Waldeck and **MJC**, as leading consultants, have provided technical rigour, safeguarding design intent and compliance throughout the programme.



Sigma Group and **24-7 Group** have brought proven M&E delivery expertise, managing complex live-site works with precision.



Alongside them, a further group of framework contractors have contributed their own specialist capabilities, ensuring the scale of retail programmes can be delivered safely, efficiently, and to the highest quality.

Together, these organisations demonstrate what true partnership can achieve: a collaborative model that delivers complex outcomes at pace, at scale, and without compromise.

TESCO



HVAC DECARBONISATION

Air Handling Solutions

www.mansfieldpollard.co.uk

salesteam@mansfieldpollard.co.uk