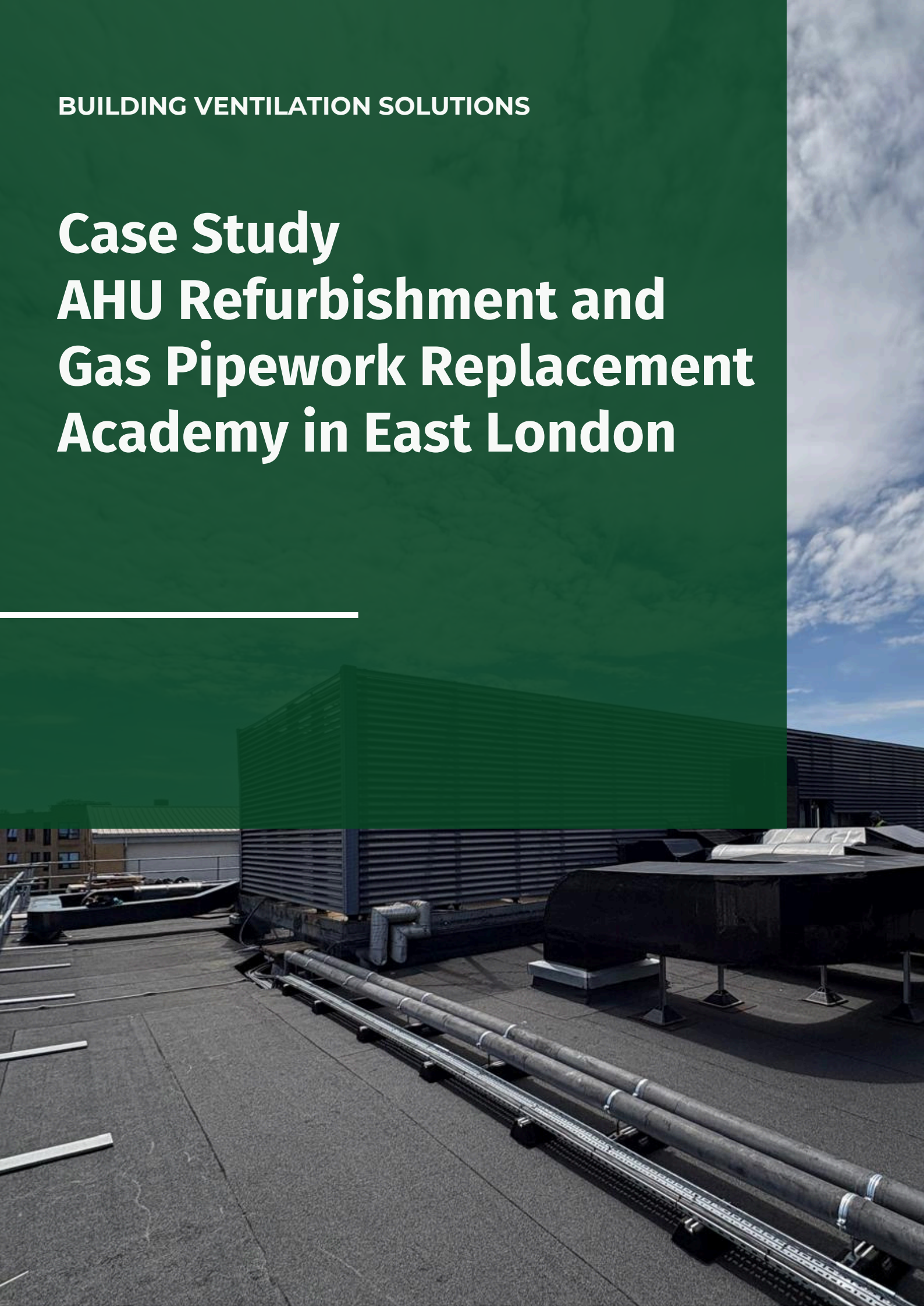


BUILDING VENTILATION SOLUTIONS

Case Study AHU Refurbishment and Gas Pipework Replacement Academy in East London



Case Study - London Academy - AHU Refurbishment

At this Academy in East London, the Theatre and Drama Air-Handling Units (AHU) had been non-operational for many years. This left both areas without heating, cooling or fresh air ventilation. A site survey found that both units were structurally sound. However, their core mechanical components, the gas burners, original fan assemblies and roof-mounted compressors, were obsolete or beyond economical repair. We also found that the Theatre unit's internal layout was also configured inefficiently for heat recovery.

Rather than recommend a costly full replacement, we proposed a comprehensive refurbishment. This meant keeping the sound AHU casings while replacing the mechanical core with high-efficiency EC fans, new DX heating coils, a reconfigured internal layout and a modern Trend IQ4 controls platform. The result included dependable performance restored at a fraction of the cost.



East London Academy - AHU Refurbishment



Gas Burner Decommissioning & Removal

Safe isolation, gas-to-air purge and removal of the redundant indirect gas burner assemblies and associated gas train components from both AHUs.

Fan Assembly Replacement

Removal of the original supply and extract fan assemblies and legacy inverter wiring, replaced with new fans sized to each unit's specific duty.

Heating Coil & Pipework Overhaul

Removal of ageing LTHW pipework and coils, followed by installation of new stainless steel pipework, valves and heating coils across both units.

Refrigeration & Condenser Installation

Cranage and installation of new roof-mounted condensers, complete with the full refrigeration pipework, insulation and commissioning valves needed to support the new DX heating systems.

Internal Clean-Down & Refurbishment

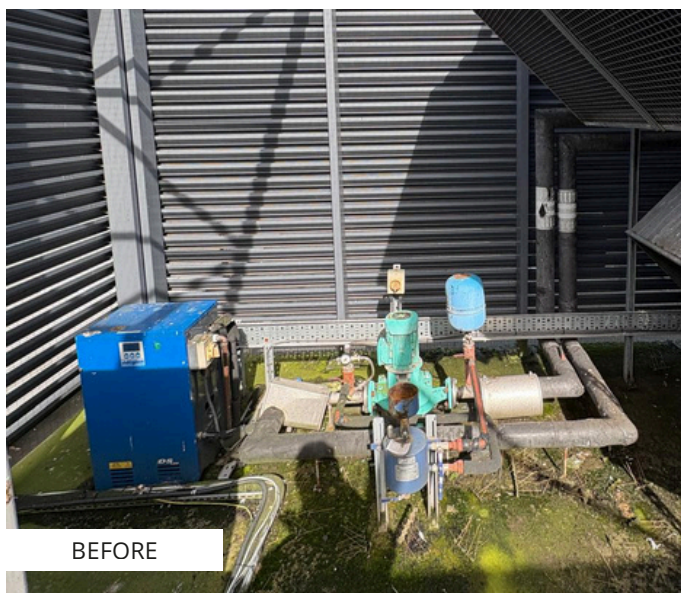
Full internal strip-out, clean-down and refurbishment of reusable AHU components, restoring both units to like-new condition.

Case Study - London Academy - AHU Refurbishment



AHU Internal Reconfiguration

The Theatre AHU's layout was reconfigured to fix a long-standing inefficiency: the run-around coil sat downstream of the pre-heater, undermining energy recovery. Works included a new pre-filter bulkhead and relocating the run-around coil and filtration into the correct sequence.



Gas Pipework Decommissioning

The redundant gas pipework and burner assemblies in both AHUs were safely decommissioned and purged from gas to air in line with IGE/UP/1A, removing an obsolete heating source no longer fit for purpose. This included isolating and removing all associated valves, controls and gas train components, clearing the way for the new refrigeration-based heating system that replaced it.

Case Study - London Academy - AHU Refurbishment



New DX Coil Condensers

Condensers connected via insulated refrigeration pipework to the new DX heating coils.

New Controls Platform — Trend IQ4

Both AHUs were fitted with the latest Trend IQ4 control platform, replacing the outdated, unsupported controls previously in place.



EC Fan Upgrades

The original fan assemblies in the Theatre (5 m³/s) and Drama (3 m³/s) AHUs were replaced with new high-efficiency EC plug fans, sized precisely to each unit's duty. EC fans offer better part-load efficiency and finer control than the legacy motors they replaced, cutting running costs.

Case Study - London Academy - AHU Refurbishment

The Benefits

The London Academy refurbishment delivered a wide range of benefits, from restoring cooling and fresh air to the Theatre and Drama spaces for the first time in a long while, to improved efficiency, modern controls and long-term cost savings. Below is a summary of the key benefits realised by the project.

Restored, reliable ventilation and heating

Both AHUs are back in full operation after an extended period out of service, giving the Theatre and Drama department dependable heating and fresh air supply for the first time in years.

Improved energy efficiency

New high-efficiency EC fans, combined with the corrected coil and filtration sequencing in the Theatre AHU, reduce running costs and improve heat recovery compared with the original setup.

Modern, future-proofed controls

The new Trend IQ4 platform linked into its existing on-site BMS. Fully supported system offering better monitoring, scheduling and long-term resilience.

Significant cost savings versus replacement

A full AHU replacement would have carried 40–60% higher costs and greater roof-access complexity; the refurbishment delivered equivalent performance at a fraction of the price and disruption.

Extended operational life of existing plant

By retaining the structurally sound AHU casings and refurbishing reusable components, the works extended the working life of the units rather than sending them to landfill.

Minimal disruption, on-programme delivery

Works were completed within the agreed timeframe, including the additional Lighting Control Room and Music room cooling scope, minimising impact on the school's operations.

GET IN TOUCH WITH US

Our dedicated team is ready to assist you with your needs. Get in touch and we'll promptly respond to your inquiry. Don't hesitate to contact us for your personalised savings calculation today!

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