

CQHN - MANCHESTER

Civic Quarter Heat Network

PROJECT PROFILE



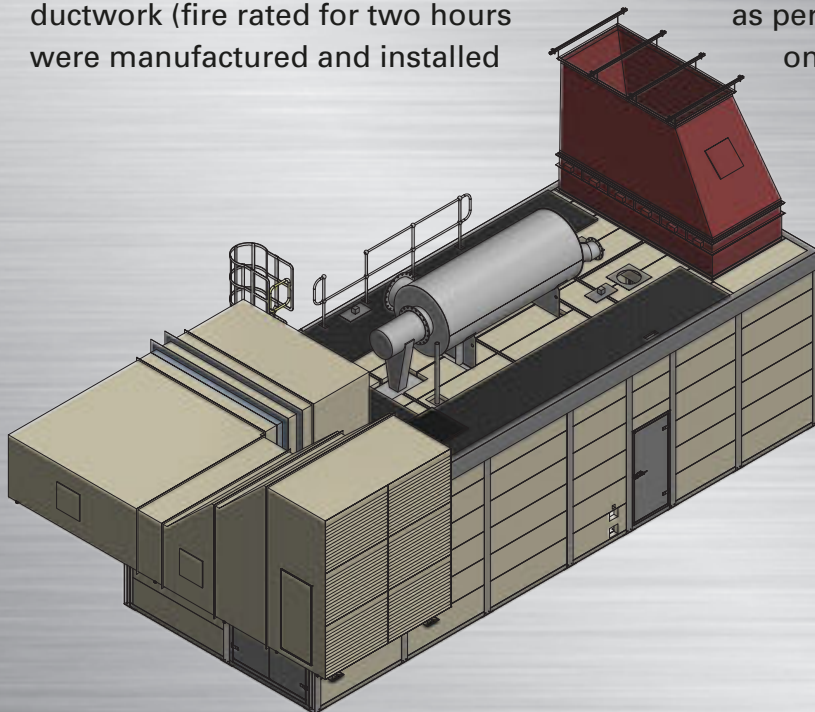
THE PLACE:

The Manchester Civic Quarter Heat Network (MCQHN) will generate **low-carbon heat and power** for the city, helping Manchester to reach its ambition to be carbon-neutral by 2038. The **£20m scheme** will save more than 3,100 tonnes of carbon emissions in its first five years of operation. Heat will be generated from an **energy centre**, built adjacent to Manchester Central Convention Centre. Its five flues will be incorporated into a 40-metre high '**Tower of Light**'. The network will generate a highly efficient, environmentally friendly heat and power solution, initially serving six of the city's most iconic buildings; Manchester Town Hall & its extension, Manchester Central Library, Manchester Central Convention Centre, Bridgewater Hall and Heron House.







THE PROJECT:


Mansfield Pollard were engaged to provide a **full acoustic solution** for a 3.3MWe CHP engine serving the CQHN situated directly under the Metrolink station arches at Manchester Central Convention complex. Comprising a supply fan wall providing **25.6m³/s airflow** plus tailor made **inlet and outlet attenuation**, the main acoustic enclosure had to be ultra quiet due to the proximity to the station concourse. A **13.2 x 5 x 4m highly insulated enclosure with integrated silencer** was built on-site to provide noise reduction to 75d(B)a at 1m FFC and 65d(B)a from the inlet and outlet ducts. Specialist **fire rated door, damper** and Firemac coated ductwork (fire rated for two hours) as per BS-EN1366-2) were manufactured and installed on site.




THE HIGHLIGHTS:

-  **13x5x4m acoustic enclosure** to house a 3.3MWe CHP engine, designed to achieve **75 dB(a)** at 1m.
-  **Air inlet fan wall** to provide **25.6m³/s** with bespoke attenuation to achieve **65 dB(a)** from inlet duct.
-  **Fire resistant outlet section** with ultra-quiet attenuation and integrated fire damper.
-  **Full flat pack site assembly** underneath Manchester Central Convention Centre Metrolink station

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