

New Build and Refurbishments

Outline

Due to the changing demands and pressures placed on the property portfolio, including ageing stock and co-location with other services, Greater Manchester Fire & Rescue Services (GMFRS) have the opportunity to improve energy efficiency and sustainability through the construction of new property or refurbishment of existing buildings.

In order to facilitate sustainability improvements, GMFRS have ensured key factors such as energy efficiency, sustainable materials and social value are factored in to projects at an early stage through project scoping and specification documents as well as via the Energy and Building Temperature Policy.

Specifications

As part of the Energy & Building Temperature Policy, minimum specifications in regards to energy efficiency have been set. For new build, the minimum specification is as follows:

- Defined on the basis of improved kWh/m² compared to the last GMFRS building constructed
- Minimum of 20% of projected energy demand supplied by renewables
- A+ rated Energy Performance Certificate
- Building fabric and technologies chosen on the basis of whole life cost
- Minimal gas heating with an aspiration to avoid non-renewable heating

Refurbishments also have a minimum specification outlined within the Energy & Building Temperature Policy which requires energy efficiency upgrades should achieve a payback on investment of less than 15 years which should include:

- Building fabric and technologies chosen on the basis of whole life cost
- Automatic controls installed during refurbishment to minimise additional cost and disruption

Along with performance, fabric and technologies, the Energy & Building Temperature Policy outlines specific information for boiler refurbishment and the purchasing of energy-labelled equipment.

For new build projects, additional sustainability factors such as construction materials, waste and social value are specified within project requirement documents in line with overall building requirements.

Wigan

Wigan Community Fire & Ambulance Station was completed in 2017 and replaced the previous GMFRS site in Wigan as well as hosting North West Ambulance Service (NWAS) serving Wigan borough. Following completion, the building achieved BREEAM 'excellent' and sustainability features predominantly throughout the building. Key features include:

- A+ rated Energy Performance Certificate
- 40kWp Solar PV system
- LED lighting installed throughout the building
- Rainwater harvesting system to meet largest water demand activity on site – vehicle washing
- Over 95% of construction waste diverted from landfill

- Over 20% of building materials sourced from recycled content
- All timber used on site classed as 100% FSC or PEFC certified
- Concrete 100% sourced from BES 6001 accredited supplier
- Energy sub-metering throughout the building
- Bespoke BMS enabling temperature control of individual rooms



Bury

Bury Operational Training and Visitor Centre opening in 2017 as a site to host operational training for firefighters across Greater Manchester and beyond. The site has a number of specific training areas which facilitate specific training scenarios including hazardous materials, high-rise, road traffic collision and urban search and rescue. In addition, the site has a visitor centre aimed at educating communities from across Greater Manchester about fire safety and other issues such as CPR. Following construction, the site achieved CEEQUAL 'Good'. A number of sustainability features were factored in to the site including:

- Smoke scrubber installed on high-rise training facility to minimise impact on local air quality
- Weather monitoring equipment installed to ensure training activity factors in sensitive receptors in the local area
- Drainage separators throughout the site drainage system to protect the River Irwell from the effects of firewater created from training activity
- 108kWp Solar PV system
- LED lighting installed throughout training facilities and visitor centre
- Solar thermal heating system to provide DHW to training classrooms, operational welfare facilities and visitor centre



Further details

For further information, please contact sustainability@manchesterfire.gov.uk