CASE STUDY: City of Bradford Metropolitan District Council

Bradford Metropolitan District Council reduces energy consumption and CO2 emissions by up to 26%

GEM's M2G technology was installed to eight boilers at three City Of Bradford MDC sites and piloting over a one month period.
The pilot sites were Alhambra Theatre, Eccleshill Baths and Keighley Town Hall. The chosen sites represented a good cross section of different boiler applications and types of buildings within the City of Bradford MDC portfolio
GEM-Utilities Ltd (GEM) helps companies reduce their carbon emissions, energy consumption and therefore save money. Based upon its established technology, M2G, is proven to deliver typical carbon emissions and energy consumption savings of between 10% and 25%.

Average savings of 20% - payback in 28 weeks

M2G delivered significant savings Alhambra Theatre 9% saving, payback 1.2 years, Eccleshill Baths 26% saving payback in 0.3 years, and Keighley Town Hall 23% saving payback in 1.2 years. Overall energy consumption was reduced by 20% and payback in just 28 weeks.

What is M2G?

The M2G is an intelligent boiler load optimisation controller that improves the efficiency of each individual boiler. A unit which can be retro-fitted to each boiler monitors the temperature of the water in the flow and return every second.
When a loading demand is made, the system automatically checks the latest data it has stored and cross references this information against the heat loss characteristics of each individual boiler to differentiate simple boiler heat loss from boiler system and building heat loss profiles. The result is a substantial fuel reduction during less demanding situations while ensuring maximum capacity during heavy load periods.
The M2G is Carbon Trust approved and qualifies for the Enhanced Capital Allowance Scheme. M2G is also listed on the ACA Capital Allowance scheme in the Rep of Ireland.

Pilot Methodology

The test conditions and methodology were agreed with Bradford MDC. The 3 pilot sites were chosen by the client and represented a cross-section of the Bradford MDC building portfolio. The pilot was conducted over 30 days.
M2G can be configured to operate in either 'Save' (i.e. days when the M2G is operational and makes savings) and 'Bypass' (i.e. days when the M2G is bypassed and makes no savings) mode. A comparison of the boiler firing periods was made between Save and Bypass days.

Variations in outside temperature were accommodated using industry standard degree day calculations.
Ambient room and hot water temperatures were unaffected during the pilot period.
All work was managed while working closely with the onsite engineers.

Integrates with Building Management Systems
The M2G integrated seamlessly with the existing Building Management Systems. The majority of M2G installations are in buildings which have sophisticated Building Management Systems.

M2G is listed on the Carbon Trust's Energy Technology List and is approved for London's Green500 initiative as well as listed on the ACA Capital Allowance Scheme in the Republic of Ireland.