

Building Optimisation – Manchester Art Gallery

Energy | Manchester, UK

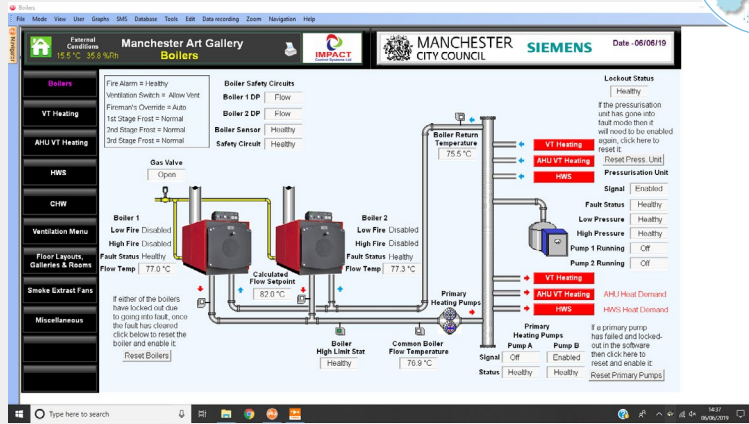


Photo source: Siemens

Looking at how much energy a building consumes and reducing this to its optimum is the first step in any energy improvement programme. Manchester City Council worked with Siemens to undertake a series of 'Investment Grade Audits' (IGAs) assessing how Manchester Art Gallery was operating against the original design parameters, and how the introduction of new technologies could reduce energy consumption plus benefit the buildings and its users. The audit on the Grade-2 listed building advised a replacement BEMS could return significant savings. A new Siemens Desigo CC BEMS platform was installed. The graphical interface allows easy operation with visualisation of real time and historical data. The system is expected to deliver circa £40,000 savings, with a 24% reduction in gas consumption and 12% saving in electricity use. In terms of greenhouse gas emissions, this improvement equates to an expected 190,404 kg/ year of CO2 emissions savings. This "Behind the Meter" innovation help ensure a sustainable future for historic buildings, but also preserve the artefacts at the correct temperature.

Measured Impacts

Energy and carbon reductions:

Gas consumption **24%**,
Electricity **12%**, CO2 **15%**

Improved energy rating from a D to C category, with associated financial savings.

project scale **Individual site**

development type **Retrofit**

Benefits

- ✓ Reducing use of fossil fuel
- ✓ Reducing operational costs
- ✓ Reducing GHG emissions
- ✓ Decreasing energy consumption
- ✓ Decreasing energy costs
- ✓ Improving energy efficiency

Lessons learned

- In multi-use buildings it is important to consider energy usage and sustainability, alongside environmental conditions for artefacts as well as staff and visitor comfort.
- Post installation training and handover is crucial
- The in-depth audit revealed some existing equipment was faulty or in need of replacement.

Challenges

The demands of historic buildings and older infrastructures.

Supporting factors



Existing building

infrastructural



financial



geographical



social



partners

Demonstrates how an existing historic building can be made more efficient

City Centre

Contribution to carbon reduction targets for the city

Manchester City Council, Siemens

Films

<https://youtu.be/nff65-013kl>

Contacts

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