

Overview

Recognising the dual imperatives of reducing costs and the need to mitigate climate change, and in line with the Calderdale Energy Future initiative, Calderdale Metropolitan Borough Council is aiming to reduce its carbon emissions by 40 per cent compared with a 2005 baseline and to reduce the energy consumed in its buildings by 20 per cent.

Calderdale Metropolitan Borough Council delivers its services from more than 300 buildings and is under increasing pressure to reduce its costs. The Council recognises that it has considerable scope to reduce these in the area of energy, water and its Carbon Reduction Commitment (CRC) liability. For the Council's corporate buildings, these costs totalled around £2.5 million in 2015/16.

Calderdale's Re:fit programme aims to improve those of its buildings that are considered to be long-term holdings. Fourteen of these were proposed for a first phase of Re:fit, including the Town Hall, several leisure centres, a stadium, a theatre, a crematorium, a residential facility, day centres and general accommodation, all of which offer viable opportunities to proceed with energy-efficiency investments. The Council has also identified 11 plots of land that will be assessed for the potential deployment of renewable-energy technologies, subject to planning permission. A further phase with schools is also being planned.

Calderdale's Chief Executive, Merran McCrae, fully supports investment in council buildings to reduce ongoing energy costs and Re:fit was chosen as the vehicle to deliver these objectives in November 2015. Calderdale Council, supported by Local Partnerships, ran a mini-competition in September 2016. SSE Contracting Ltd was identified as preferred bidder in December 2016. Following appointment, initial feasibility studies were completed for Phase 1's 14 selected sites in January/February 2016. Calderdale is currently seeking Cabinet approval for Re:fit Phase 1, with a view to completing the detailed design phase by 2 June and starting works in autumn 2017.

Project:	Calderdale	
Savings:	£150,983 energy and water spend reduction and income per annum Energy savings of 3,102,341kWh	849 tonnes of CO ₂ per annum saved
Value:	£1,774,027 investment in retrofit works	Simple payback of 11.6 years
Timescale:	Installation to commence autumn 2017	



"We're in the early stages of setting up the Re:fit programme and we're very excited by the potential of each scheme to bring reductions in CO₂ emissions, and at the same time achieve significant savings for the Council."

"Initially we're concentrating on 14 buildings, however in the future we will also be looking at wider opportunities, including exploring the possibility of generating renewable energy on other Council owned buildings and land."

Cllr Barry Collins, Calderdale Council's Cabinet Member for Regeneration and Economic Development

Summary of Energy Conservation Measures (ECMs)

The Calderdale project encompasses a number of energy-efficiency and renewable-energy measures, some of which are listed below.

LED Lighting upgrade

The replacement of low luminous CFL, T8 and T5 fluorescent, 2D, metal-halide lamps and halogen luminaires with LED is one of the ECMs that has been proposed for many of the buildings in Phase 1.

Building Management System (BMS) upgrade

BMSs with poor interface, inappropriate zone control, no weather compensation and/or inadequate or ineffective controls are all being replaced with new Trend BMSs, which will also be optimised for comfort and efficiency.

Micro-CHP

The replacement of outdated electric water heaters and boiler plant by micro-CHP has been proposed for Lower Edge Day Centre, Higgins Close Day Centre and rehabilitation accommodation and Brighouse Pool in order to save energy and generate electricity.

Rooftop PV

Rooftop solar PV has been identified for five of the buildings in Phase 1. Preliminary estimates show that with an investment of approximately £296,000, 55 tonnes of carbon and around £15,000 of electricity savings could be achieved annually.

Boiler upgrade

In addition to the micro-CHP works mentioned, outdated boiler plant is due to be upgraded in the Town Hall, Crematorium gate house and Higgins Close Day Centre and rehabilitation accommodation.

AHU with heat recovery

The AHU in the pool of the Todmorden Sports Centre is not fit for purpose, so a specialist pool AHU with heat recovery is being proposed, with anticipated savings of 12 per cent of electricity and 42 per cent of gas currently used.

Wi-Fi-controlled TRVs

WeTRV are Wi-Fi-controlled TRVs that enable users to set the time and temperature a radiator should work to. It is proposed to install WeTRV across The MBI Shay Stadium, so that heat is only provided when needed.

Energy efficiency and financial savings through Re:fit

Re:fit is a procurement framework and support service available to all public sector organisations in the UK. Since 2009 it has been helping organisations to deliver “spend-to-save” environmental retrofit projects that both improve their buildings and, importantly, make substantial guaranteed financial savings.

For more information about the National Re:fit Programme, contact robert.mckinnon@local.gov.uk or phone 07920 702 297.