

Overview

Buckinghamshire County Council (BCC) has a target to reduce carbon emissions by 10 per cent by 2017* to deliver improvements to its key public buildings. The project demonstrates the Council's commitment to energy efficiency and achieving value for money for the public sector.

BCC has used the National Re:fit Programme to deliver an ambitious programme for energy efficiency across its estates. This flagship project launches the delivery of the Buckinghamshire Energy Strategy. While the Council has already made strong progress towards its carbon targets, Re:fit has allowed it to achieve economies of scale and bring improved efficiency to its smallest buildings under a guaranteed savings programme.

The Council, supported by Local Partnerships, ran a mini-competition under the Re:fit programme and Engie was identified as preferred bidder in February 2015. Engie completed Investment Grade Proposals for the first phase of 18 selected buildings at the end of summer 2015 and installation began in spring 2016.

Local Partnerships' team assisted throughout the process, providing a review of technical and commercial documentation to help gain approval to install the selected measures.

One of the buildings identified for improvements in spring 2016 was the New County Offices, the council headquarters, which offers direct access to the general public. Built in 1966, it is a 14-storey building with a floor space of 18,300m².

Project:	New County Offices	
Savings:	£37,699 energy spend reduction per annum Energy savings of 498,592 kWh (14.5%)	Around 175.8 tonnes of CO ₂ per annum saved
Value:	£247,362 investment of retrofit works	Simple payback of 8.8 years
Timescale:	Installation commenced in spring 2016	



“Local Partnerships’ professional support has helped Buckinghamshire County Council through the project’s internal approval stages to deliver a tailored approach. It has provided technical expertise to review the differing approaches offered for energy reduction and to select the most appropriate service provider for the Council.”

Rachel Toresen-Owuor, Energy Manager

*2011-12 baseline in the BCC Carbon Management Plan

Summary of Energy Conservation Measures (ECMs)

The Council's new county offices project encompassed a number of energy-efficiency measures. These are listed below.

Building Management System (BMS) optimisation and monitoring

Issues were identified with the setup of the existing systems and strategy scripts. BMS will ensure the building is set up to operate at optimum energy efficiency and that these optimum conditions persist throughout the payback period.

Engie will monitor ongoing energy performance through its Remote Intelligence Bureau. This ECM is a great way to ensure that buildings operate as efficiently as possible throughout their lifetime and that any issues are identified and actioned quickly.

Time clocks

Installing time clocks in electrical "point-of-use" water heaters is an effective way to reduce energy and a number of these units will be installed across the site. This will save energy by reducing electricity used to overcome standing losses when the buildings are unoccupied.

Lighting replacement and control upgrade

Installation of high-efficiency LED lighting will ensure that savings can be made as cost effective as possible by maximising the lifetime of the existing assets. The proposed LED products have been specified as suitable alternatives to the existing lighting to ensure that the Council's energy savings and payback criteria are met. The new LEDs will also ensure that lighting levels are maintained or improved.

Within the main office area, new lighting and lighting controls will be implemented from the first to 11th floors. This will reduce the total quantity of fittings within the open-plan office areas and will replace the existing lighting control sensors with new DALI (Digital Addressable Lighting Interface) daylight and presence sensors.

New passive infrared sensor (PIR) detection lighting controls are being fitted in common and circulation areas, such as toilets, stairwells and corridors. The lighting controls will operate luminaires on an on/off basis only. New emergency lighting will be provided via local three-hour, non-maintained battery backup modules and replaced on a like-for-like basis.



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 further information

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