

Overview

Cambridgeshire County Council (CCC), under an EU-funded scheme, has used the National Re:fit Programme to make guaranteed energy-efficiency savings and improve the condition of its schools and public buildings across the county.

The Council secured £20 million of investment for energy-saving retrofits and renewable energy to schools, council land and buildings. The improvements will pay for themselves through the energy savings made.

Cambridgeshire County Council sets out to lead by example by adopting the Re:fit framework to increase energy efficiency, reduce CO₂ emissions and improve the condition of its buildings (both corporate and schools).

The estimated potential of this scheme is to deliver 1.2 million tonnes of CO₂ savings over the lifetime of the project. Cambridgeshire County Council's Re:fit project is available to schools and public sector buildings across the County.

The Council commissioned Local Partnerships in May 2014 to develop an energy-performance contracting programme, which provided guaranteed energy-efficiency savings.

Local Partnerships is supporting the Council in delivering its Re:fit project:

- it helped to scope the project through the tendering phases to appoint the energy-service company Bouygues Energies & Services via the national Re:fit procurement framework
it is providing quality-assurance reviews of the technical documentation produced by Bouygues and the analysis of the Investment Grade Proposals to help deliver the next phase of the installations.

Project:	Cambridgeshire County Council – Currently Seven Corporate Sites	
Scope:	Works involving a combination of retrofit and renewable solutions	
Savings:	379 MWh per annum	169 estimated tonnes of CO ₂ per annum
Value:	£480,000 investment	8.5 years payback
Timescale:	Installation works completed by summer 2016	



“Local Partnerships gave us confidence . . . by guiding us through the Re:fit procurement process, offering professional support and advice and asking challenging questions about issues we hadn't even thought about. Without their support, the procurement process could have been a lot more stressful and we may not have achieved the goals we set for ourselves.”

Sheryl French, Project Director, Mobilising Local Energy Investment

Summary of Energy Conservation Measures (ECMs)

CCC encompassed a number of Energy Conservation Measures (ECMs) across seven of its buildings.

Solar PV arrays

A comprehensive engineering investigation concluded that they could install seven solar arrays, at a capacity of 183 kWp, creating financial benefit of over £30,000 per year.

LED lighting upgrades and controls

There is a significant amount of inefficient lighting within the buildings, particularly within the building's circulation areas, such as stairwells, toilets and corridors (both front of house and back of house), and office and staff rooms. The light sources in these areas consist of various types of fluorescent fittings and in most circumstances have been replaced on a one-for-one basis with a more efficient LED equivalent. There are rooms, however, where fittings will be rationalised to allow for sufficient light levels at lower energy use. Savings of more than £10,000 and over forty three tonnes of carbon per year are expected.

Insulation

Exposed un-insulated pipework can generate high surface temperatures. This wastes energy and cost, via wasted utilities, and can have detrimental maintenance effects on other plant equipment (shortening the design life of electronic components). This is also a health and safety risk if touched and dependant on the application, a range of valve jackets and pipework insulation have been retrofitted to exposed plant.

Building Management System (BMS) optimisation of controls and monitoring

Issues were identified with the setup of the existing systems. The buildings have been set up to operate at optimum energy efficiency and controls established so that these optimum conditions persist throughout the payback period.

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